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ABSTRACTS

1.RED BLOOD CELLS RESPONSE TO HYPERBARIC HYPEROXIC ENVIRONMENT

CECILIA ADUMITRESI, N. CEAMITRU, ILEANA ION, NINELA RĂDULESCU, CRISTINA FARCAŞ, CARMEN CIUFU, LOREDANA HANZU

Physiology and Pathophysiology Department, Faculty of Medicine, "Ovidius" University, Constanta

Objectives: The use of respiratory gas mixtures in hyperbaric conditions during simulated diving, following high oxygen partial pressure in pulmonary alveoli and the increase of the plasma oxygen concentration, revealed an accident risk, deriving from oxygen toxicity. Our study aims to measure those parameters that emphasize intricate effects of hyperbaric environment over the red blood cells of exposed organisms, induced by its characteristic hyperoxic aggression. Material and methods: Experiments were performed on Guinea pigs exposed to a pressure of 6 ATA.The breathing mixtures were represented by plain air and by a mixture of 32% oxygen with 68% nitrogen (Nitrox I).We assessed the number of red blood cells, their minimal and maximal osmotic fragility and estimate the percentage of erythrocytes glucose involved in pentose phosphate pathway, by measuring erythrocytes Glucose-6-phosphate dehydrogenase activity.

Results:We obtained significant changes of the measured parameters and noticed specific responces regarding the use of different specific oxygen concentration in the respiratory mixtures. Conclusions: Hyperbarism and hyperoxia induced by the 6 ATA pressure simmulated exposure, using air and nitrox as respiratory mixtures, produce increses of oxygen radicals production and significant responses of red blood cells number and their osmotic fragility. The increase of plasma oxygen concentration following the use of Nitrox as a respiratory mixture (oxygen concentration in this mixture being 32%) during simulated diving lead to additional changes. Erythrocytes Glucose-6-phosphate dehydrogenase is part of the antioxidant protective system associated to cells ability to neutralize oxidation stress, in order to avoid their irreversible denaturation, but beeig itself a possible target.

Key Words: hyperbaric environment, respiratory mixture, Nitrox I, Glucose-6-phosphate dehydrogenase, reactive oxygen species.

2.SOFTWARE MODELLING METHODS FOR NEURO-VISUAL STRUCTURES

ALEXANDRU D., ALEXANDRU LIVIA., GEORGESCU D., IANCAU MARIA

UMF Craiova

Our only source of visual percepts are the spikes generated by the ganglion cells, so its important to understand how these potentials generate visual perception. The main goal is the development of a computational model of the retina, phisyologically realistic, providing at the same time a flexible architecture for the structure. The retina performs data processing, diminishing the number of sent signals from 10^8 photoreceptors to ~10^6 (the number of fibers the optic nerve contains), thus being possible to discover new methods for data compression. A simplified retina model consists of 3 layers of elements that process visual informations, each of them being connected to the preceding layers (photoreceptors, bipolar cells, ganglion cells form a path with anterograde transmission).This structure is very similar to a feed forward neural network. There are cells that have lateral links inside a layer, (horizontal cells, amacrine cells). The presence of these inhibitory or excitatory layers means the use of image substraction or addition; the use of operands can be achieved by using concepts from fuzzy neural networks. The image processing tasks are executed by layers of functionally identical cells and by means of different transition operations between layers. Temporal processing consists mainly in diminishing the intensity of the stimulus and in delaying the information when it passes from one layer to another. This model shows the spatio-temporal reply pf the retina as a whole, as well as the reply of individual cells from the different layers of th eretina. This network has to accomplish this two tasks in a convincing manner.

Key Words: retina, softwrae model, neural network

3.OXIDATIV STRESS AND HOMOCYSTEINE IN PACIENTES WITH RENAL TRANSPLANT OR SUBMITED TO HEMODIALYSIS

ANTONESCU ANGELA[1], MUREŞAN MARIANA[1], MICLE OTILIA[1], MICLE LIANA[1], DOBJANSCHI LUCIANA[1], PIRTE ADRIANA[1], DOROFTEIU MIRCEA[2], ANTONESCU ANDREEA[1]

[1]University of Oradea, Medicine and Pharmacy Faculty,Oradea Romania

[2]University of Medicine and Pharmacy, Cluj Napoca Romania

Background. Increased total homocysteine is very common in renal patients. Hyperhomocysteinemia is an additional factor that increases the risk of vascular diseases in general and in renal patients in particular. The aim of the paper was to point out the associations between the level of homocysteine and the oxidative stress in patients submited to hemodialysis and renal transplant. Material and method. The study included 30 patients submited to hemodialysis from the Clinical Hospital Oradea- Department of Nephrology, and 25 patientes with renal transplant during five months after the surgery. Before and after the hemodialysis the concentration of homocysteine (total serum homocysteine was measured using the enzymatic homocysteine assay, cat no. FHER100, on Hitachi 912 instrument) of MDA (with tiobarbituric acid) and carbonylated proteins (guanidin method) were assessed. In the same time the level of ceruloplasmin, the main antioxidant factor in the plasma was measured (Ravin method). We also estimated the level of creatinine and urea during those months.The same investigation we made on the patient with renal transplant. The concentrations of cholesterol and triglicerides were also evaluated. All resultes were compared with a control group. Results. Before and after the hemodialysis the homocysteine concentration was significantly elevated in the blood of the studied patients. The patients before hemodialysis had an increased level of MDA in comparison with the control group. Hemodialysis changed in little measure the level of MDA (p1). The carbonylated proteins had also a high concentration in patientes in comparison with the control group($p<0,001$).After hemodialysis no remarkable difference was noticed ($p>0,1$). The concentration of ceruloplasmin in the serum of renal patients before hemodialysis was lower in comparison with the control group ($p< 0,05$). After hemodialysis the values were similar to those before the intervention ($p> 0,1$).We also assessed serum creatinine, uric acid ,urea and total protein. The level of serum homocysteine was increased in patients with renal transplant. In these patients an augmentation MDA was present ($p<0,001$). The

concentration of ceruloplasmin in the serum of these patients was low comparing to the control group (p> 0,1). In the same time we estimated the level of cholesterol, triglycerides which are considered cardiovascular disease risk factors. Conclusions. Concentrations of homocysteine in renal patients after hemodialysis was high. The hiperhomocysteinemia was associated with oxidative stress. The level of MDA in patients with renal transplant was increased in comparison with the control group and the concentration of ceruloplasmin was reduced which signs of an oxidative stress. The patients with renal transplantation has also hiperhomocysteinemia.

Key words: homocysteine, reactive oxygen species(ROS), hemodialysis, renal transplant

4.NEW APPROACES IN RECOVERING THERAPY IN MULTIPLE SCLEROSIS

ELENA TAINA AVRAMESCU[1], MARIUS CRISTIAN NEAMȚU[2], MARIA IANCĂU[3], ADRIAN NEŞTIANU[4], OANA MARIA NEAMȚU[5]

[1]University of Craiova, Faculty of physical Education and Sport, Department of Human Anatomy
[2]University of Medicine and Pharmacy Craiova, Faculty of Midwives and Medical Assistance, Department of Normal and Pathologic Physiology
[3]University of Medicine and Pharmacy Craiova, Faculty of General Medicine, Department of Pathologic Physiology
[4] University of Medicine and Pharmacy Craiova, Faculty of General Medicine, Department of Normal Physiology
[5]University of Craiova, Faculty of physical Education and Sport

Freeman et co (1999) made a random study on 66 patients with progressive multiple sclerosis. The patients were evaluated conform to Kurtzke disability scale and the target group followed a recovery program of 20 days. The patients` disability and functional independence were evaluated at the beginning of the study and after 6 weeks and London scale for handicap was applied. The two groups were classified according to age, gender, evolutive level and disease duration. The group who followed the recovery program showed improvements in their disability degree and participation degree, comparatively with witness group. A more complex study evaluated the effects of physical training involving physical exercises and strength exercises on patients with multiple average and mild sclerosis – *Romberg et co, 2004*. The trainings took place in hospital within 3 weeks and at the patients` location within 23 weeks; the results were compared to those of a witness group. All the studied patients registered improvements of the evaluated parameters. In some countries patients with MS are treated by electrical stimulation, meaning the use of some electrodes on the affected muscles, substituting thus physiological nervous stimulation. The method may be used in the case of the patients who can still walk. Functional electrical stimulation as treatment in multiple sclerosis is hardly used due to the lack of clinical documentation. Since MS is a chronic disease with periods of stagnation and recurrence, the indications in the use of electrical stimulation vary according to symtoms and functional limits. Electrical stimulation improves muscular force, coordination, balance, walking ability and the efficiency of routine activities.

Key words: functional electrical stimulation, disability.

5.NOVELTIES IN NEUROPHYSIOLOGIC ASPECTS IN MULTIPLE SCLEROSIS

ELENA TAINA AVRAMESCU[1], MARIUS CRISTIAN NEAMȚU[2], MARIA IANCĂU[3], ADRIAN NEŞTIANU[4], OANA MARIA NEAMȚU[5]

[1]University of Craiova, Faculty of physical Education and Sport, Department of Human Anatomy
[2]University of Medicine and Pharmacy Craiova, Faculty of Midwives and Medical Assistance, Department of Normal and Pathologic Physiology
[3] University of Medicine and Pharmacy Craiova, Faculty of General Medicine, Department of Normal Physiology
[4]University of Medicine and Pharmacy Craiova, Faculty of General Medicine, Department of Pathologic Physiology
[5]University of Craiova, Faculty of physical Education and Sport

Neurophysiologic aspects involved in multiple sclerosis refer to electrophysiologic and molecular substrat responsible for the nervous conduct modified by demyelinated axons. This modified conduct of demyelinated axons is the result of electrical alterations at axonal level. Many studies show that at the level of Ranvier throttles are great quantities of Na channels of 1000/μm^2 at the level of nodal membrane, comparatively with 25 /μm^2 at the level of internodal membrane. The number of Na channels is almost equal owing to the low surface of nodal membrane. Immunohistochemical and electrophysiologic studies have indicated a great density of Na currents The aspect is important since syncronic activation of these channels generate a sufficient current to activate the following knot. Myelinated axons have also channels for pothasium. Pothasium axonal currents are present in low quantity at the knot level but they are very frequent within the myelin layer. It has been suggested that the density of pothasium rapid current is maximum in juxtaparanodal region and reduced to 1/6 in nodal region. This reduced nodal distribution prevents hyperexcitability. Blocking the conduct may depend on the frequency of impulses; the conduct takes place in the case of low frequncy impulses. Blocking the conduct of high frequency impulses may be the result of hyperplarization caused by the activity of electrogenic pump. It has been suggested that an increase of intracellular Na concentration at nodal level, associated with extracellular accumulation of pothasium in demyelinated areas could lead to inactivation of Na channels and blocking of nervous impulse conduct.

Key words: nervous conduct, demyelinated axons

6.THE CORELATION OF CYTOGENETIC ABNORMALITIES WITH BONE MARROW PLASMA CELL INFILTRATION IN MULTIPLE MYELOMA

DANIELA BADEA[1], M. BADEA[2], CRISTINA PETRICĂ[3], AMELIA GENUNCHE-DUMITRESCU[4], LUCICA ROŞU[5], SMARANDA MITRAN[1]

[1]Department of Physiology, University of Medicine and Pharmacy, Craiova, Romania
[2]Department of Haematology, University of Medicine and Pharmacy, Craiova, Romania
[3]Department of Physiopathology, University of Medicine and Pharmacy, Craiova, Romania
[4]Department of Internal Medicine, University of Medicine and Pharmacy,

Craiova, Romania
[5]Department of Microbiology, University of Medicine and Pharmacy, Craiova, Romania

Multiple myeloma (MM) is an incurable malignancy. Recent insights into the biology of MM have provided a framework in the development of drugs that target not only intracellular pathways, but also the myeloma-bone marrow microenvironment interaction. Material and methods. Our lot contains 44 patients with MM at diagnosis; average age is 63,3±4,44 years; ratio male/female 1,86. 75% of patients are in III stages (staging system Durie-Salmon). Regarding the type of plasma cell morphology the lot was shared as follows: 9,09% plasmablastic group, 18,18% immature group, 15,9% intermediate group and 56,81% mature group (Greipp). The therapy was Alkeran and Prednisone in over 75% of patients and the others received different polychemotherapy. Results. The cytogenetical examination was + in 29,54%, most frequent involved chromosomes 1;14 and cytogenetic abnormalities was complex (structural and numerical) in 83,3% cases; plasma cell infiltration >30% in 39,28% cytogenetic abnormalities. The 24 month survival rate was 61,53% for the patients with cytogenetical abnormalities and 87,1% for the patients without cytogenetic abnormalities (Fischer exact p=0,09). The 36 month survival rate was 33,07% vs 64,45% for the same groups mentioned before. Conclusions. The plasmablastic and immature type of morphology has a negative prognostic impact to the survival of patients with MM. The presence of cytogenetic abnormalities seams to be correlated with the plasma cell infiltration degree, the morphological subtypes and with an unfavorable prognostic, too.

Key words: multiple myeloma, cytogenetical abnormalities, plasma cell infiltration.

7.INCIDENCE AND CONSEQUENCES OF HEMORRHAGE AND THROMBOSIS IN CHRONIC MYLOPROLIFERATIVE DISEASES

DANIELA BADEA[1], M. BADEA[2], CRISTINA PETRICĂ[3], LUCICA ROŞU[4], AMELIA GENUNCHE-DUMITRESCU[5], ADRIAN BĂLŞEANU[1]

[1]Department of Physiology, University of Medicine and Pharmacy, Craiova, Romania
[2]Department of Haematology, University of Medicine and Pharmacy, Craiova, Romania
[3]Department of Physiopathology, University of Medicine and Pharmacy, Craiova, Romania
[4]Department of Microbiology, University of Medicine and Pharmacy, Craiova, Romania
[5]Department of Internal Medicine, University of Medicine and Pharmacy, Craiova, Romania

Chronic myeloproliferative diseases are clinical entities that include clonal disorders of the multipotent stem cell with distinct clinical course and long and sometimes intricate progression. Material and methods. We evaluated the hemorrhage and thrombosis in a group of 80 patients: 52,5% with chronic myeloid leukemia (CML), 23,75% with policitemia vera (PV), 17,5% with essential thrombocytosis (ET) and 6,25% with agnogenic myeloid metaplasia (AMM). Results. From the clinical and laboratory data it was noticed the high frequency of thrombosis especially in ET 50% and PV 26,31% and the hemorrhage (CML 76,19%, AMM 40%), some of them fatal. The bleeding time was prolonged in 11,9% of cases in CML, in ET 28,57% and in AMM 40%. The prothrombin time was prolonged in CML 26,19%, in PV 21,05%, in ET 7,14%, in AMM 40%. The activated partial thromboplastin time was prolonged especially in AMM 40%, CML 26,19%, PV 21,05%, ET 7,14%. The clot retraction was deficient in 8,7% of cases. Further more, the antiplatelet therapy and chemotherapy by inducing thrombocytopenia and pancytopenia respectively increased the risk of hemorrhage (4 patients, 5%). Thrombosis does not correlated with the number of platelets and apparently a thrombosis of over 1000000/mm^3 increased the risk for hemorrhagic complications. Conclusions. Although these clinical entities are slowly progressive diseases, the overall survival and prognosis of these patients are significantly marked by hemorrhagic and thrombotic complications, hence the necesity for a carefully monitoring of coagulation status.

Key words: chronic myeloproliferative diseases, hemorrhage, thrombosis.

8.INFLUENCES OF ALL TRANS RETINOIC ACID AND ULTRAVIOLET LIGHT EXPOSURE ON NORMAL HUMAN MELANOCYTE CULTURES

BALDEA IOANA, COSGAREA RODICA, FILIP ADRIANA, MURESAN ADRIANA

"Iuliu Hatieganu" University of Medicine and Pharmacy Cluj-Napoca, Romania

Background: All-trans-retinoic acid (ATRA) is an A vitamin derivate, which has a complex behavior although it is used as hypo pigmenting agent. It is able to activate Mitf expression through PKC and stimulate melanocyte differentiation. However, it also reduces the number of cells, since it triggers apoptosis. It might increase pigmentation when the levels of melanin are very low, or melanocytes are scarce and inactive, but it has opposite effects in melanocytes previously exposed to UV. Objective: To study normal human melanocytes behavior in cultures exposed to different concentrations of ATRA associated with UVA and UVB radiation. Methods: Normal human epidermal melanocytes were incubated with various concentrations of ATRA, (10-9M - 10-5M), in serum free, basic melanocyte media for different periods of time: 2, 4, 6, 8, 24h, then irradiated with UVB 10-30 mJ/cm2, respective UVA 20-50 mJ/cm2. Proliferation was assessed using a MTT assay; total melanin content was measured through spectrophotometry against a standard curve, using synthetic melanin; the tyrosinase enzymatic activity as DOPAchrom oxidase was measured spectrophotometrically using the enzymatic activity of mushroom tyrosinase as a control; melanocyte senescence was assessed by counting the nuclear senescence foci under fluorescence microscopy observation after H2AX completed with Alexa fluor antibodies immunostaining. Results: The cultured melanocytes behavior can be influenced by the small amounts of ATRA in the culture media that we used, but the relationship between concentration and effect is not linear, it also depends on the exposure time. While short periods of exposure to small ATRA concentrations had a constant stimulating effect on cell proliferation, pigment genesis and slightly improved senescence, a longer exposure period decreased total melanin content, although the enzymatic activity of tyrosinase remained increased compared to the untreated controls, without affecting cell proliferation. In all the irradiated melanocyte cultures we observed increasing of pigment genesis. However there was an important difference between the cultures exposed to the ATRA - UVA

and ATRA –UVB combination on cell proliferation, melanogenesis and senescence. While ATRA - UVA irradiation had a stimulating effect on melanocyte proliferation and decreased cell senescence, ATRA –UVB decreased cell proliferation at higher doses of light exposure and increased senescence. Conclusion: In our experiments, ATRA had different effects on melanocyte survival, proliferation, pigment production and senescence, according to the concentration used, association with UV exposure and time elapsed.

9.EFFECTS OF GRANULOCYTE-COLONY STIMULATING FACTOR AFTER STROKE IN AGED RATS

A. BALSEANU[1,2], K. STÖCKER[3], K. DIEDERICH[3], J. MINNERUP[3], C. MARGARITESCU[1,2], W.R. SCHÄBITZ[3] A. POPA-WAGNER[1,2]

[1]Department. of Neurology, University of Greifswald, Germany
[2]University of Medicine and Pharmacy Craiova, Romania
[3]Department of Neurology, University of Münster, Germany

Background and purpose: In aged humans, stroke is a major cause of disability for which no neuroprotective measures are available. G-CSF, a member of the cytokine family of growth factors, promotes brain neurogenesis and improves functional outcome after stroke in the young animal. Here, we test the hypothesis that G-CSF provides restorative therapeutic benefit to the aged animal. *Methods*: Focal cerebral ischemia was produced by reversible occlusion of the right middle cerebral artery in 19-20 month-old male *Sprague Dawley* rats. One hour after stroke, the aged rats were treated daily with 15µg/kg G-CSF and for 15 days in total. Rats were behaviorally tested and the brains analyzed after 28 days post-stroke. *Results*: G-CSF treatment had a beneficial effect on survival rate, functional recovery of motor function (rotarod, inclined plane) and working memory (radial maze). However, the beneficial effects of treatment was generally limited to the first 12 days post-stroke. At cellular level, the G-CSF treatment increased the number of proliferating cells in the SVZ and the dentate gyrus and increased the number of new born neurons in the SVZ, ipsilateral to the lesion. *Conclusions*: These results suggests that the G-CSF treatment in aged rats has primarily a beneficial effect on functional outcome most likely via supportive cellular processes such as neurogenesis. Further studies are required to optimize G-CSF treatment schedule in aged subjects.

10. THE CIRCADIAN RHYTHM OF THE COAGULATION-FIBRYNOLYSIS BALANCE (CFB): A PHYSIOLOGICAL REALITY IN NEWBORN ?

ANCA BĂDĂRĂU, MARIANA ARTINO, RALUCA PAPACOCEA, CĂTĂLINA CIORNEI, EREMIA IRINA

UMF Carol Davila Bucharest

The circadian variations of some aspects of term newborns infants homeostasy (other than CFB were identified both in newborns and preterm newborn infants. In the present paper we proposed to follow up a number of CFB parameters, in different moments of the day : 6-8 a.m. and 6-8 p.m. respectively. Our study was performed on newborns infants divided in 5 groups depending on gestational age (GA), body weight and APGAR score. The obtained results showed significant statistic differences in the term newborns infants with a normal body weight and APGAR score more than 8,depending on the moment of the day when the birth took place. In preterm newborn infants born during evening, the statistic data do not differ from the preterm newborn infants born during morning.

11.SALIVA ENZYME'S CHANGES IN NEW DIAGNOSED DIABETES MELLITUS VERSUS ORAL CAVITY DISEASES

ANCA BĂDĂRĂU, MARIANA ARTINO, RALUCA PAPACOCEA, CĂTĂLINA CIORNEI GRATIELA MIHAI

UMF Carol Davila Bucharest

One of the most often met consequences of the diabetes mellitus, more than renal injuries, are the oral cavities injuries. The diabetes mellitus and orofacial diseases involves both external factors and the local and general body response. In the present paper we proposed to follow up the aminotransferases (TGO, TGP) and LDH evolutions as indicators of the tissue destruction and even as indicators of the oxidative stress in patients with new diabetes mellitus, parodontopathies and oral cavity tumors. In the new diagnosed diabetes mellitus the saliva TGO, TGP and LDH presents significant increases comparative with plasma values of the same parameters. A change in enzymatic systems was identified in the group with parodontopathies (low significance, $p>0,05$). Low significant changes in the studied enzymes level were identified in patients with benign and malignant tumors of the oral cavity. ($p>0,05$). In the group with many tooth decays significant changes in the TGO, TGP ($p<0,001$) but not for LDH ($p>0,05$) for were noticed in comparison with controls. In the studied dental and orofacial diseases cannot be described a sustained correlation between their presence and the evolution of the studied enzymes.

12.SERIC AND SALIVARY IONIC CHANGES IN C VIRUS HEPATITIS

DANIELA BĂDIȚĂ[1], ADINA OLTEANU[1], MONICA DRAGOMIR[1], VICTOR NIMIGEAN[2]

Carol Davila University of Medicine, Dental Medicine Faculty, Bucharest, Department of Physiology,
Carol Davila University of Medicine, Dental Medicine Faculty, Bucharest Topografic Anatomy Department

Ionic homeostasis can be affected in hepatic viral infections, by affecting the hepatic inactivation for some hormones and the acid-basic balance. We have assessed ionic plasmatic and salivary levels for 35 healthy subjects (control group) and for 34 patients with virus C chronic hepatitis (CCH). Plasma total calcium, sodium and potassium presented variations between the normal values for the lab methods and non-significant statistically ($p > 0.05$). Ionic calcium was significant higher ($p > 0.05$) for the patients with CHH (4.29 ± 0.33 mg/dl) compared to the control group (3.98 ± 0.35 mg/dl); the same for magnesium: 2.02 ± 0.31 mg/dl at CHH group, compared to 1.83 ± 0.29 mg/dl for the control group. In total non-stimulated saliva, the potassium level was significant lower ($p < 0.01$) in CHH (11.48 ± 2.30 mmol/l) compared to the control group (22.31 ± 8.88 mmol/l). Chloride level was significant higher ($p < 0.01$) in CHH (63.91 ± 5.88 mmoli/l) compared to the control group

(42.20 ± 15.23 mmol/l). Salivary calcium is significant lower at the HCC group (11.76 ± 0.32 mmol/) compared to 1.95 ± 0.46 mmol/l for control group. Conclusions: In virus C hepatic infections we did not observe plasmatic pathological changes for sodium, potassium, total calcium levels, but ionic calcium and magnesium levels were increased. The decrease of potassium and calcium levels and the increase of chloride level in CHH patients' saliva could suggest the involvement of secretory and reabsorption processes from salivary striate ductus.

13.LEFT VENTRICLE RESTYLING STUDY IN ARTERIAL HIGH BLOOD PRESSURE DISEASE FOR A PATIENTS SAMPLE FROM KOSOVO AREA

BEKIM MALA[1], GUSTI SIMONA[2], VICTORIA BELU[3], DAN NITA[4]

[1]Cardiology Department, Dr Daut Mustafa Hospital- Prizren, KOSOVO
[2]Physiology Department, Medicine Faculty, U.M.F. Craiova, ROMANIA
[3]Cardiology Department, Campulung Hospital, ROMANIA
[4]Military Hospital, Bucharest, ROMANIA

The authors perform a clinical and a paraclinical study for a lot of 30 patients suffering of arterial high blood pressure, stage I (systolic arterial pressure 140-159 mmHg and dyastolic pressure 90-95 mmHg). The patients were male gender predominant and living in urban environment. The EKG was performed with NIHON KOHDEN 9020K devices for investigation of left ventricle hypertrophy (LWH) using Sokolow-Lyon and Cornell traces (signs); Echocardiography was performed with ALOKA 4000 devices for investigation of left ventricle hypertrophy presence or absence, ventricular mass and sistolic and diastolic function. The goal of the study was to measure the above parameters for new investigated patients and for old investigated patients also (patients with disease 2-5 years old). From EKG and Echocardiography analysis of investigated patients we noticed that we do not find left ventricle hypertrophy (LWH) for 20 patients (66.6 % from examined group). For 10 patients(33.3 %from examined group) we noticed left ventricle hypertrophy (LWH) as follow: concentric type hypertrophy for 9 patients (30 %) and eccentric type hypertrophy for 1 patients (3.33 %). We note that left ventricle restyling and systolic function alteration begin in early stage of High Blood Pressure stage I (administrating a specific treatment) and it is important for patients with 3-5 years old disease.

Key words: Arterial High Blood Pressure stage I; left ventricle hypertrophy; Electrocardiogram, Echocardiography.

14.STUDY OF CEREBRAL BIOELECTROGENESIS IN CHRONIC HEPATIC DISEASES

MARINELA BEZNA, S. BEZNA, A. NESTIANU, MARIA IANCAU, D.GEORGESCU, MARIA CRISTINA BEZNA, P. BADEA, V. NESTIANU

University of Medicine and Pharmacie of Craiova

The electrical recorder of cerebral bioactivity is important in the assessment of patients with hepatic-cerebral syndrome. Aim: Presenting some cerebral electrophisiological findings which can delimitate a diagnosis variation profile in chronic hepatic patients. Patients and methods: The study was made on a group of 220 patients with chronic hepatic diseases, to whom were recorded visual evoked potentials (VEP) and electroencephalography (EEG). Results: Electroencephalography and visual evoked potentials permit a neuroelectrophysiological status of hepatic patients and a modified aspect can have significance and measure the degree of perturbations. The aspect of modifications in VEP waves parameters were elongation of latency and duration (121%), diminution of amplitudes (55%), abruptness (52%) and surfaces (48%) and the increase of the differences in cerebral answer between eyes (480%). EEG is hypo volted or plate (α amplitude-36 μV); rich in slow waves (δ and θ, 85%) and the presence of triphasic waves (1 patient). Conclusions: Perturbations in spontanous or evoked electrical cerebral activity shows an electrophysiological profile in cerebral suffering in hepatic patient. The suggesting aspects are with decrease energy of cerebral waves in 1/3 of patients with chronic hepatic disease. The electrophysiological status with prolonged latencies and timing, decrease of amplitude and sharpness of VEP waves and especially the great differences of latency, timing and amplitude between eyes, as well as the appearance of slow waves (θ and δ) and EEG hypo voltage, demonstrate the cerebral aggresion in hepatic disease and its treatment.

Key woords: chronic hepatic diseases, VEP, EEG

15.OPTIMAL CONTROL FOR BLOOD GLUCOSE WITH REFERENCE MODEL

CRISTINA BEZNĂ, ILEANA NEACĂ, IONELA IANCU

University of Medicine and Pharmacy of Craiova, Faculty of Medicine

The realisation of the artificial pancreas is presently a fundamental high priority research area with a strong interdisciplinary character (physiology, diabetology, automated systems engineering). The objective consisted in the building of a mathematical model of the blood glucose control system as correctly as possible and the development on its base of evolved control algorithms in an automated state, adapted to the real-life situations encountered in medical practice. The realisation of these algorithms constitutes an important stage in the construction of insulin pumps with automated control (closed loop) similar to the physiological pancreas. Model Predictive Control (MPC) is a multivariable control algorithm that uses: an internal dynamic model of the process (blood glucose control system); a history of past control moves; an optimization cost function over the receding prediction horizon, to calculate the optimum control commands. The output of the system is compared to a desired response from a reference model. By doing these, we are strongly reducing the influence of external perturbations (meals, physical exercise, stress etc.) as well as illness.

Key words: blood glucose control, optimal control, mathematical model, artificial pancreas

16.RELATIONSHIP BETWEEN THYROID FUNCTION AND COMPONENTS OF THE METABOLIC SYNDROME IN HEALTHY SUBJECTS

BOBCOVA SVETLANA[1], PROTOPOP SVETLANA[1], LYSYI LEONID[1], SAULEA AUREL[2], DRAGAN BORIS[2]

[1]Department of Biochemistry and Clinical Biochemistry, State University of Medicine and Pharmacy "Nicolae Testemiţanu", Chişinău, Moldova
[2]Department of Human Physiology, State University of Medicine and

Pharmacy "Nicolae Testemițanu", Chişinău, Moldova

Objective: We aimed to investigate the relationship between thyroid function and components of the metabolic syndrome in euthyroid subjects. Design and methods: In thirty healthy women it was determined thyroid stimulating hormone (TSH), free triiodthyronine and free thyroxine levels, lipid and lipoprotein concentrations, fasting glucose and insulin levels, homeostasis model assessment of insulin resistance (HOMA-IR), it was measured waist circumference, body mass index (BMI), systolic and diastolic blood pressure. The patients were divided into two groups in function of TSH levels (fifteen patients with TSH levels < 1,46 mIU/L (1,13±0,23 mIU/L) and fifteen patients with TSH levels ≥ 1,46 mIU/L (1,99±0,59 mIU/L), p<0,0001). Results: Investigated indices did not differ between the two groups, except high-density lipoprotein cholesterol levels (1,67±0,48 mmol/L vs. 1,31±0,36 mmol/L, p0,03) and waist circumference (74,2±14,5 vs. 80,5±10,1 cm, p0,05). TSH positively correlated with BMI (b0,31, p0,016), waist circumference (b0,31, p0,017), and negatively correlated with high-density lipoprotein cholesterol levels (b-0,35, p0,007). BMI was positively associated with systolic blood pressure (b0,47, p0,0009), diastolic blood pressure (b0,39, p0,006), and negatively associated with high-density lipoprotein cholesterol levels (b-0,31, p0,018). Waist circumference was associated positively with systolic blood pressure (b0,45, p0,0016), diastolic blood pressure (b0,36, p0,013), triglyceride levels (b0,28, p0,035), and negatively associated with high-density lipoprotein cholesterol levels (b-0,33, p0,012). Conclusion: We have demonstrated an association between TSH levels within the normal reference range and some components of the metabolic syndrome. These findings are consistent with an increased metabolic risk in subjects with low normal thyroid function.

Key words: thyroid function, metabolic syndrome, body mass index.

17.HUMAN MESENCHYMAL STEM CELLS TRANSITION TOWARD THE EPITHELIAL LINEAGE – IN VITRO STUDY

BOJIN MF, SISKA IR, HERMAN D, BUNU C, TATU C, ANGHEL S, DEAK E, TATU CA, TANASIE G, PAUNESCU V

University of Medicine and Pharmacy Victor Babes, Timisoara

Background and aims: Several studies showed that mesenchymal stem cells (MSCs) can give rise, in vivo, to epithelial cell types in lungs and other tissues. The aim of this study was to examine the in vitro differentiation potential of human MSCs toward the epithelial lineage. Material and Methods: For isolation and culture of human MSCs we used the bone marrow aspirates obtained from the sternum of 8 patients with different hematological disorders. Informed consent was signed by each patient. Plastic adherence and culture in standard medium provided a good isolation and purity of MSCs. After the second passage, MSCs were plated in uncoated flasks using the same medium, gradually supplemented with specific growth factors. Expression of cytokeratin 19 and 18 was assessed using immunocytokemistry after 7-14 days from the initial plating. Relative quantification of epithelial marker cytokeratin 18 mRNA was performed using real-time RT-PCR. Results: The epithelial-like cells acquired a rounded/polygonal shape and formed an adherent monolayer, organized in cobblestone pattern clusters. These cells were positive for CK 19 (40% of total cells). During the epithelial differentiation of the MSCs, the level of some specific markers determined by flowcytometric analysis was decreased. The RT-PCR detected strong expression of CK18 in the cultured cells. Conclusion: This study provides preliminary results indicating that MSCs can acquire an epithelial phenotype when submitted to appropriate differentiation protocol, thus being possible candidate for further genetic engineering with medical or research purpose.

Key words: mesenchymal stem cells, epithelial lineage, cytokeratin

18.CLINIC AND PARACLINIC STUDY OF A GROUP OF CHILDREN WITH BEDWETTING FROM DOLJ

AIDA BONTEA[1], SIMONA GUSTI[2], V. IOVANEL[1]

[1]Segarcea City Hospital
[2]University of Medicine and Pharmacy of Craiova

The bedwetting is defined such involuntary pee (night/day) of a child over 4 years (limit arbitrary considered to be maximum age until the healthy child must obtain sfincterian control, including night control). Bedwetting suppose the persistence of involuntary nocturnal pee for more of two times in a month to a child over five years. From a group of 476 of children, with age between 5-12 years, predominant boys and from country hospitalized in Craiova Child Neuropsychiatry Hospital for different disorders such as epilepsy, comportamental problems, it was put the diagnosis of bedwetting to a group of 30 children. This group had included children with ages between five to twelve years, predominant boys (80%), and from country (77%). I had studied this group using detailed body examination, psychiatry exams, urinary tests, urinary culture, lombosacrat radiography, electroencephalography, computer tomography. I had identified the existence of urinary infections to 3 children (10%), spina bifida to 6 children (20%), and from these predominant to the female (83%). Psychiatry exams put the diagnosis of delay in phisiatrical development with IQ under normal to 8 children (26%), predominant boys. In the study group, 77% (23 patients), had presented on electroencephalography iritiatives lines, and the rest of children (23%), epilepsy –7 patients, predominant female. After a cranial traumatism to 3 children who in time presented bedwetting, the computer tomography wasn't revealing pathological aspects.

19.EVALUATION OF THE ELECTROPHYSIOLOGICAL CHARACTERISTICS IN POLYNEUROPATHIES

CLAUDIA BORZA[1], RODICA MATEESCU[2], GERMAINE SAVOIU[1]

[1]Department of Pathophysiology, University of Medicine and Pharmacy Victor Babes Timişoara
[2]Department of Physiology, University of Medicine and Pharmacy Victor Babes Timişoara

The aim of this study was to evaluate the utility of electromyography and nerve conduction parametres in evolution of the polyneuropathies. The patients were classified depend on the site of the lesions, the clinical signs and the initial stage of the disease. The electrophysiological characteristics were analysed: the amplitude of the muscle action potential, the proximal and distal latency and for electromyography: the amplitude, duration, frequency and the aspect of motor unit potentials. Results: the motor deficit

and the decrease of muscular force were the main clinical signs in these diseases. In these patients an electromyographic neurogen recording type was found and a decreased value of motor conduction velocity for corresponding nerve was observed. Conclusion: The electromyographic neurogen recording type is characterized by a spontaneous activity in resting state and during contraction a low recrutation pattern and high amplitude and duration of the potentials were record. These parametres together with the clinical signs established the positive diagnosis of the polyneuropathy and the prognostic of the disease.

Key-words: polyneuropathy, electromyography, motor nerve conduction velocity

20.THE PREVALENCE OF METABOLIC SYNDROME IN PATIENTS WITH ARTERIAL HYPERTENSION

CLAUDIA BORZA[1], RODICA MATEESCU[2], GABRIELA NEGRISANU[3], CORINA SERBAN[1], LELIA SUSAN[4]

[1]University of Medicine and Pharmacy "Victor Babes", Timisoara, Department of Pathophysiology
[2]University of Medicine and Pharmacy "Victor Babes", Timisoara, Department of Physiology
[3]University of Medicine and Pharmacy "Victor Babes", Timisoara, Department of 3rd Internal Medicine
[4]University of Medicine and Pharmacy "Victor Babes", Timisoara, The IVth Medical Clinic

Aim: Metabolic syndrome is strongly predictive of future diabetes and its presence in hypertensive patients who may be at risk for diabetes should be investigated. The purpose of this study was to determine the prevalence of metabolic syndrome in a group of hypertensive patients using the criteria of the Cholesterol Education Program's Adult Treatment Panel III. Material and methods: A population of 102 hypertensive patients (46 males and 56 females) over the age of 40 were screened for metabolic syndrome by determining body mass index (BMI), waist circumference, levels of fasting plasma glucose and fasting plasma lipids (serum triglycerides, total cholesterol and high-density lipoprotein cholesterol). The study was carried out in the IVth Clinic of University of Medicine and Pharmacy "Victor Babes" Timisoara from January 2008 to January 2009. Results: The total number of patients who met the criteria for metabolic syndrome was 36 (35%), 38% of them were males and 62% females. Prevalence of the syndrome was 29.7% among 40- to 55-year-olds and 45.6% in those above the age of 55 years. Among the 102 hypertensive patients, type II diabetes mellitus was found in 55.4%, impaired fasting glucose in 9%, high plasma triglycerides in 42.5% and low high-density lipoprotein cholesterol in 63.5%. Obesity measured as BMI = 30 kg/m2 was noted in 48% patients and increased waist circumference in 62% patients. Conclusion: These findings demonstrate that the prevalence of metabolic syndrome is high among hypertensive patients and that it is generally poorly diagnosed and treated.

Keywords: metabolic syndrome, hypertension, obesity, BMI

21.DIABETES MELLITUS - DIGESTIVE IMPLICATIONS

ANDRADA BRATU[1], MONICA BRATU[1], ADRIANA BUCATĂ[1], ALEXANDRU CROITORU[2], SORIN ARAMĂ[2]

[1]2nd year students,, UMF „Carol Davila", The Faculty of Dentistry, Bucharest
[2]The Patophisyology and Imunology Department, UMF „Carol Davila", The Faculty of Dentistry, Bucharest

Introduction. Diabetes is a serious metabolic disease, characterized by permanent hyperglycemia and severe intermediate metabolic derangements. Many patients with diabetes present digestive implications. The purpose of our research was to compare the correspondence between digestive symptoms and the endoscopic exam and we discovered digestive implications of neuropathy on a group of diabetics compared to non-diabetics. Materials and method. We studied the files of 45 patients (25 diabetics and 20 non-diabetics) hospitalised in the Internal Diseases and Rheumatology „Dr. Ion Cantacuzino" Clinical Hospital, Bucharest, between january and april 2009. They also underwent an endoscopic exam. We distributed the patients by age groups, sex ratio, digestive symptoms, endoscopic lesions, and we made clinical-endoscopic corellations. The data from this research is represented in diagrams where we can observe the prevalence of diabetics by age group and by sex. We concluded that in diabetic patients, there are lesions of esophagitis or ulcer but without them experiencing any pain, therefore endoscopic exams must be performed on diabetic patients even in the absence of any symptoms. The non-diabetic patients with endoscopic injuries presented pyrosis or left hypochondrium and epigastrum pain, so we revealed a correlation between clinic signs and endoscopy.

22.EXPRESSION OF CATHEPSIN-D IN BREAST LESION

IULIA BRUJAN[1], CL. MĂRGĂRITESCU[2], CRISTIANA SIMIONESCU[2], D. PIRICI[3], CAMELIA FOARFĂ[2], A. STEPAN[4], MARIA VRABETE[1]

[1]Department of Physiopathology, University of Medicine and Pharmacy, Craiova
[2]Department of Pathology, University of Medicine and Pharmacy, Craiova
[3]Department of Histology, University of Medicine and Pharmacy, Craiova
[4]Laboratory of Pathology, No. 1 Emergency County Hospital, Craiova

Cathepsin-D (CathD) is an aspartyl lysosomal protease expressed in all tissues that might play a role in antigen processing, cellproliferation and tissue renewal, and activation of different pro hormones. The aim of our study was to compare the expression of CathD (we investigated the cathepsin-D expression in these breast lesions using immunohistochemistry) in most common breast tumors and tumor-like breast lesions. The study includes 21 patients with histologically verified breast lesions Cathepsin-D staining within each lesion was assessed by estimating the area of the objects and the medium pixel intensity per object, as the integrated optical density (IOD). The immunostaining was more obvious in breast invasive carcinomas and macrophages. The reaction in tumor tissue was heterogeneous with little variation of staining intensity in positive tumor cells. Results suggest that CathD expression was strongest in malignant than in benign breast disease, the positivity being present in both epithelial neoplastic and stromal cells.

Keywords: breast, carcinoma, cathepsin-D, immunohistochemistry.

23.P 53 EXPRESSION IN BREAST LESION

IULIA BRUJAN[1], CL. MĂRGĂRITESCU[2], CRISTIANA SIMIONESCU[2], D. PIRICI[3], CAMELIA FOARFĂ[2], A. STEPAN[4], MARIA VRABETE[1]

[1]Department of Physiopathology, University of Medicine and Pharmacy, Craiova
[2]Department of Pathology, University of Medicine and Pharmacy, Craiova
[3]Department of Histology, University of Medicine and Pharmacy, Craiova
[4]Laboratory of Pathology, No. 1 Emergency County Hospital, Craiova

P53 belongs to a multigene family that also includes p63 and p73. A major role for p53 has been termed "the guardian of the genome" since a rapid increase of this protein is seen in response to DNA damage (genetic stress), hypoxia or loss of normal cell contacts (epigenetic stress). The aim of our study was to compare the expression of P53 in most common breast tumors and tumor-like breast lesions. The study includes 21 patients with histologically verified breast lesions (adenosis, ductal hyperplasia, fibroadenomas, and different types of invasive carcinoma). We investigated the P 53 expression in these breast lesions using immunohistochemistry (IH; paraffin-embedded tissues). P53 was the most expressed as intensity and quality in the low differentiated, invasive ductal adenocarcinoma. Also we had the highest quantity and quality scores for the most advanced stages(III and IV) of those carcinomas. We used a heterogenous marking type and evidentiated both positive and negative nucleus for the P53 marker, from one region to another of the carcinoma. Using the same marking we obtained similar results in the other carcinoma variatis included in our study but with quantity and quality score inferior to those of the invasive ductal carcinoma. A weak trace of P53 was observed in some benign lesions of the mammary gland included in our study such as the sclero-adenosis, mammary fibroadenoma, and the intraductal hiperplasia. Numerous studies have also demonstrated a positive association between p53 mutation/accumulation and compromised disease-free survival and overall survival, but whether p53 status provides independent prognostic information in addition to classical prognostic variables has been a controversial issue, and opposite results exist as well

Keywords: breast, carcinoma, P53, immunohistochemistry.

24.BOTH NEUROGENESIS AND NEURONAL DEGENERATION CAUSES GENERALIZED EPILEPSY

ANA-MARIA BUGA[1], AUREL POPA-WAGNER[2]

[1]University of Medicine and Pharmacy, Craiova, Romania
[2]Klinik für Neurologie, Ernst-Moritz-Arndt-University, Greifswald, Germany

With continued debate over the functional significance of adult neurogenesis, identifying an in vivo correlate of neurogenesis has become an important goal. Kindled seizures are widely used to model epileptogenesis, but the molecular mechanisms underlying the attainment of kindling status are largely unknown. Previously we showed that achievement of kindling status in the Sprague-Dawley rat is associated with a critical developmental interval of 25 ± 1 days. We hypothesized that cellular differentiation events with this periodicity may underlie the tightly circumscribed window for the optimal induction of convulsive seizure. By quantitative immunohistochemistry and confocal 3D-image reconstruction analysis using tissue from this new model, we now report that convulsive seizure leads first to a non-specific, transient increase in the number of proliferative cells that are proliferating cell nuclear antigen-, BrdU- and doublecortin-immunopositive. However, repeated convulsive seizures with a periodicity of 25 days led to an enrichment of newly generated neurons, which were BrdU-positive in the dentate gyrus and temporal cortex at day 25 post-seizure. At the same time, there is a massive increase in the number of neurons expressing the migratory marker, doublecortin, at the boundary between the granule cell layer and the polymorphic layer in the dorsal hippocampus and at the lateral ventricle-corpus callosum boundary, some of which are positive for BrdU. By gene profiling and real-time PCR we show that a number of neurogenesis-related genes are downregulated in the hippocampus of kindled rats. Moreover, drugs known to enhance neurogenesis like L-NAME increased the seizure susceptibility at 25 days whereas drugs known to inhibit neurogenesis like temozolomide, reduced the seizure susceptibility at the critical interval. Paradoxically, prolonged temozolomide treatment increased seizure susceptibility during the critisal period by increasing the number of abnormal neurons suggesting that both increased neurogenesis and abnormal neurogenesis may lead to increased seizure susceptibility. This model may be can be used as an in vivo correlate of neurogenesis to study basic questions related to neurogenesis and neurogenic mechanisms of epilepsy.

25.THE ANALYSIS OF THE BLOOD GLUCOSE CONTROL SYSTEM IN THE FREQUENCY DOMAIN

MARIUS CAPRA, ANA DRAGOMIRESCU, IONELA IANCU, VERONICA SFREDEL

Physiological the plasma glucose oscillations are the result of the insulin secretion oscillations and external perturbations (meal, exercise, medication, stress, etc.). For this study, we have selected 18 adult subjects (10 female and 8 male), patients with insulin dependent mellitus diabetes and 3 healthy humans. 16 patients underwent treatment with rapid and semi-lent types of insulin and two patients have received insulin by insulin pump. The blood glucose was recorded to each patient at five minutes intervals, continuously for three days, using the *Real-Time Guardian Continuous Glucose Monitoring System* in unrestrained conditions. Each patient had a normal life, with usual meals and activities at work and at home. The continuous blood glucose records represent for this study time-series of the blood glucose concentration. The spectral analysis of the signal difference between the 3 days of the recording has displayed a similar behaviour for the three categories of the subjects of the experimental lot. We have considered that the blood glucose oscillations over the 0.6 – 0.7 mHz correspond to the function of a very robust structure from the blood glucose control system that work almost identically everyday. We have supposed that this structure represent the mass of cells up taking glucose from the blood stream for the basal metabolism and the minimum daily activities. The oscillations in the range of 0.1 – 0.7 mHz could be the expression of the external perturbations. The physiological interpretation of this phenomenon is very difficult in the absence of the experimental studies in this field of interest.

Key words: diabetes mellitus, continuous glucose monitoring, spectral analysis.

26.SIMVASTATIN REDUCES FIBRINOGEN LEVELS IN PATIENTS WITH HYPERCHOLESTEROLEMIA AND SYSTEMIC HYPERTENSION

CAMELIA CAPUCI[1], MITRAN MARIA CRISTINA[1], SOREI DARIA IULIA [1], DRAGOS ALEXANDRU[1], GEORGE BOERU[2], MARIA IANCAU[1]

[1]University of Medicine and Pharmacy of Craiova
[2]Department of Cardiology, Emergency Hospital of Slatina

Background:The 3-hydroxy-3-methylglutaryl coenzyme A (HMG-CoA) reductase inhibitors (statins) have multiple actions above and beyond that of cholesterol lowering. These pleiotropic actions include direct effects on vascular tissue, kidney, bone, and glucose metabolism. Statins have a variable response on fibrinogen. Plasma fibrinogen is strongly asociated with cardiovascular morbidity and mortality. Fibrinogen levels and plasma viscosity may be used to stratify cardiovascular risk in hypercholesterolemic patients. Several studies examining the influence of statins on fibrinogen levels in hypercholesterolemic patients have shown mixed results. Objectives: The aim of the study was to compare the effect of treatment with two different doses of simvastatin on plasma fibrinogen in patients with hypercholesterolemia and systemic hypertension. Methodes: Sixty patients enrolled into study were randomly divided into two groups, treed with simvastatin 20 mg or 40 mg. Plasma lipid profile and fibrinogen levels were measured before and after 4 and 12 weeks of the therapy. Results: After 4 weeks both doses tended to decrease fibrinogen levels, while after 12 weeks fibrinogen level was significantly decreased. Conclusions: simvastatin reduces plasma fibrinogen in patients with hypercholesterolemia and systemic hypertension.

27.NEW STRATEGIES ON HYPERCHOLESTEROLEMIA TREATMENT

CAMELIA CAPUCI, DRAGOS ALEXANDRU, MARIA IANCAU

University of Medicine and Pharmacy of Craiova

Statins are effective drugs for lowering low-density lipoprotein cholesterol, and their use has been associated with a significant decrease in cardiovascular morbidity and mortality.The benefits of these medications have been demonstrated in clinical trials for secondary prevention -controlling risk factors and preventing death in patients who already have heart disease. Statins may be taken alone or taken with other cholesterol medicines such as fibric acid derivatives, bile acid sequestrants, or nicotinic acid. The efficacy of fibrate-statin combinations was documented in clinical studies showing statistically significant reductions in LDL and triglycerides and increases in HDL. Several studies showed that the combination of niacin and a statin is highly effective for treatment of dyslipidemia and is superior to either drug alone. Ezetimibe can be administered in combination with a statin in patients who are unable to tolerate large dosages of statins or require further reductions in LDL despite maximum statin dosage.

28.CLINICAL ASPECTS OF PERIODONTAL DISEASE ASSOCIATED WITH DIABETES MELLITUS

CLAUDIU CĂLIN, ALEXANDRU CROITORU, ŞTEFAN SORIN ARAMĂ

Carol Davila University of Medicine, Dental Medicine Faculty, Bucharest

Through Periodontal Disease we define a complex of inflammatory affections of the marginal parodontium determined by the micro-organisms in the dental plaque with the contribution of local and systemic factors, which induce to the organism a particular susceptibility. There are a series of oral modifications associated to diabetes mellitus, from which periodontal disease is the most important. Besides gingivitis and periodontitis appear: dental caries, salivary glands dysfunction and oral infections such as candidosys. Periodontal diseases, as much as diabetes mellitus, especially type 2 have major inflammatory components. Systemic bacteria infections produce major systemic inflammations which raise insulin resistance and therefore glycemia cannot be stabilized. We have performed a retrospective study over a group of 16 patients with insulin independent diabetes mellitus hospitalized in the Clinic of the National Institute of Diabetes and Nutritional Diseases “N. Paulescu”, in Bucharest, in March – April 2009. The patients have ages between 30 and 60 years old, almost half of them having the glycemia stabilized. At the objective examination, we have identified more severe odonto-periodontal lesions at the other 9 diabetics that were not glycemia stabilized. In our study we’ve seen that the diabetic patients with poor glycemia control through diet have a pronounced degree of teeth mobility with massive gum retractions and exteriorized root portion, caries at the neck of remaining teeth, abundant bacterial plaque, massive tartar deposits, dry lips and xerostomie. We saw that DM determines a modified immune cells phenotype which increases the production of cytokines and predispose to a chronic inflammatory process.

Key words: periodontal disease, diabetes mellitus, bacterial plaque, cell phenotype.

29.THE EFFECTS OF PLIOMETRIC TRAINING OVER THE ATHLETIC PERFORMANCES OF A PUBERTY AGE SPORTSMEN LOT

MIRELA LUCIA CĂLINA[1,2], DENISA ENESCU BIERU[1], LIGIA RUSU[1,2], ELENA TAINA AVRAMESCU[1,2], ANAMARIA KESE[1]

[1]Faculty of Physical Education and Sport Craiova, University of Craiova, Romania
[2]Sport Polyclinic Craiova, Romania

Introduction: The pliometric training allows the sprints speed and vertical jump improvement, with important and multiple implications in the medical recovery. Objective: The purpose of our work was to emphasize the effects of pliometric training over the sprints speed and vertical jump at a puberty age football player’s lot, without increasing the injury risk. Material and method: The study was made on 12 sportsmen, males, with a medium age of 12,5 years, clinically healthy, without joint or muscular pathologies, divided aleatory in 2 groups: group A (6 sportsmen), which benefit of a specific football training and group B (6 sportsmen), which additionally benefit of a pliometric training (sprints of 30 meters and

different vertical jumping types). The training period lasted 10 weeks, under medical surveillance; its efficiency was appreciated before and after the training programme with the help of the following parameters: squat jump (SJ) test and speed measurements at different intermediary distances. Results: At the end of the training period, the group B sportsmen improved their performances at all levels (the vertical jump increases with 34% and sprint times decrease with 2%), due to muscular fibers volume growing, a better neuronal command and intra, inter muscular coordination, in comparison with the group A, whose results remained unmodified. Conclusions: The moderate pliometric training determined the sprints speed and vertical jump (athletic performances) improvement, without increasing the injury risk at young sportsmen.

Key words: pliometric training, puberty age, sportsmen, athletic performances.

30.EFFECTS OF ACUTE AND CHRONIC STRESS ON CUTANEOUS NEUROGENIC INFLAMMATORY RESPONSE IN RATS

CONSTANTIN CĂRUNTU[1,2], BOGDAN PAVEL[1], LUISA GEORGIANA BÂCĂ[1], ANA LUCA[3], LEON ZĂGREAN[1]

[1]Center for Excellence in Neuroscience, Carol Davila University of Medicine and Pharmacy, Bucharest, Romania
[2]Department of Dermatology, National Institute of Diabetes, Nutrition and Metabolic Diseases "N. Paulescu", Bucharest, Romania
[3]Faculty of Dentistry, Carol Davila University of Medicine and Pharmacy, Bucharest, Romania

Introduction: The purpose of this study is to examine how acute and chronic stress influences cutaneous neurogenic inflammation induced by capsaicin. Materials and methods: A number of 15 adult male Wistar rats (250–350 g) were randomly divided into three groups: control (n 5), acute stress (n 5) and chronic stress (n 5). Stress was administered by placing each rat in normal ventilated Plexiglas restrainers, a procedure meant to trigger psychological stress, through the animals perception of confinement. Control rats were left undisturbed in their home cages, animals from acute stress group were exposed to stress for 2 hours and rats from the chronic stress group were stressed 2 hours per day for 21 days. Rats were anesthetized with chloral hydrate. Then, capsaicin solution 1% was injected subcutaneously in the rat's paw. Local blood flow was monitored with a LASER Doppler flowmeter, 10 minutes before and 30 minutes after capsaicin administration. Results: The cutaneous blood flow rate before capsaicin administration was similar between control, acute stress and chronic stress group and was considered as baseline. In the first 30 minutes after capsaicin injection, blood flow rate increased in average with 243% in the control group, with 530% in the acute stress group and with 189% in chronic stress group. Conclusions: The present study shows that acute stress enhances, while chronic stress decreases capsaicin-induced cutaneous neurogenic inflammatory response. These findings suggest that stress plays a complex role in the onset and exacerbation of several inflammatory skin disease.

Key words: stress, neurogenic inflammation, capsaicin.

31.FROM PRIONS TO PRIONIC DISEASES

GEORGIANA CĂTĂLUI

„Titu Maiorescu University", Bucharest, Medicine Student

The prion hypothesis ignored the so-called "central dogma of biology" by accepting that protein particles are able to directly produce diseases without the apparent participation of any nucleic acid, whether this is DNA or RNA. A prion is a protein that is capable of self replication, thereby altering a cell's metabolism. Prions propagate in a retrograde direction, from the axons (the long fibers that emerge from the neuron and transmit messages to other cells) to the soma (the most voluminous part of the neuron, where the genetic material is found). Prions are misfolded proteins, causing a variety of prionic diseases which attack the brain. Prions are the infectious agents responsible for a group of fatal neurodegenerative disorders. Prionic diseases are a family of rare progressive neurodegenerative disorders. These diseases have enormous variability in their incubation periods, ranging from a few months to forty years. The prionic diseases begin slowly and get worse over time, attacking the nervous system. We discuss the clinical picture, epidemiology, and historical background of prionic diseases. Prions are responsible for a number of previously known but little-understood diseases generally classified under transmissible spongiform encephalopathy diseases (TSEs), including scrapie (a disease of sheep), kuru (found in members of the formerly cannibalistic Foré tribe in Papua New Guinea), Creutzfeldt-Jakob disease (CJD), Chronic Wasting Disease, Fatal Familial Insomnia (FFI), Gerstmann-Sträussler-Scheinker syndrome (GSS), and bovine spongiform encephalopathy (BSE or mad cow disease). These diseases affect the structure of brain tissue and all are fatal and untreatable.

Key words: prions, infectious agents, prionic diseases.

32.THE DIAGNOSTIC VALUE OF EEG IN DIFFERENTIATING BETWEEN SUBCORTICAL VASCULAR DEMENTIA AND ALZHEIMER'S DISEASE

AURA CIOBANU[1], M. COTEANU[2], SIMONA GUSTI[3], ALICE GUSTI[4]

[1]Neurology Clinic, Clinical Neuropsychiatry Hospital, Craiova, Romania
[2]Departament of Neurology, County Hospital, Slatina, Romania
[3]Departament of Physiology, University of Medicine and Pharmacy, Craiova, Romania
[4]Departament of Physiology, Faculty of Physical Education and Sport, University, Craiova, Romania

Objective: The study was undertaken to investigate whether visual EEG may be used in differential diagnosis between Alzheimer's disease (AD) and subcortical vascular dementia (SVD). Methods: We analyzed EEG in 21 patients with AD (according to NINCDS-ADRDA criteria) and 14 patients with probable SVD (according to NINCDS-ADRDA and Erkinjuntii's criteria). The patients were divided into two subgroups with mild and moderate dementia according to the scores of Mini Mental State Examination (MMSE). The EEG findings were classified using an eight degree scale according the background activity, presence and

amount of theta and delta waves. Results: The visual EEG as alpha/theta and delta ratio differed subgroups with moderate dementia but did not differ AD and SVD with mild dementia. Conclusion: Visual EEG could only differ AD and SVD groups with moderate dementia, and probably QEEG could be useful in differential diagnosis between AD and SVD groups with mild dementia in early state of disease.

33.A STUDY OF BLOOD PARAMETERS IN PATIENTS WITH PAROXYSTICAL ATRIAL FIBRILLATION

CĂTĂLINA CIORNEI, RALUCA PAPACOCEA, ANCA BĂDĂRĂU, MARIANA ARTINO, ANDREI GEORGESCU, DUMITRU FERECHIDE, MIOARA ZAMFIR, SILVIA NICA, FLORINA CIORNEI

Carol Davila University of Medicine and Pharmacy, Bucharest

Paroxystical atrial fibrillation (AFi) is an arrhytmia with sudden onset, that produces important and characteristic symptoms, so that the patients immediately go and see the doctor. Unlike this situation, the patients with chronic atrial fibrillation have almost no symptoms, so that they go and see the doctor at more than 48 hrs after the onset of the arrhytmia. We studied some blood parameters in patients with paroxystical atrial fibrillation , in order to predict the further evolution of the sudden onset arrhythmia. Material and methods: we studied 11 patients presented in the Emergency Department of the Emergency University Hospital in Bucharest, with paroxystical atrial fibrillation. We studied the parameters at the admission in the ER, at 4 and 6 hrs later. The patients received antiarrhytmic drugs (propafenone or amiodarone), some of them converted into sinus rhythm (SR) and some of them did not. We made two groups of patients, those that converted in SR and those that remained in AFi. We also compared the parameters in the patients with the first episode of AFi and those with recurrent paroxystical atrial fibrillation. We studied the serum level of NT-proBNP, myoglobine, CK-MB, CRP, TGO, TGP.

Key words: paroxystical atrial fibrillation, recurrent, NT-proBNP.

34.THE VARIATIONS OF SOME BIOCHEMICAL PARAMETERS AND OF THE CLOTTING SYSTEM IN PATIENTS WITH ACUTE POISONING WITH CO

CATALINA CIORNEI[1], ANCA BADARAU[1], MARIANA ARTINO[1], A. GEORGESCU[2], ANTOANETA PUNGA[1], SILVIA NICA[2], D. FERECHIDE[1], M. LUPUSORU[1], MIOARA ZAMFIR[2], RALUCA PAPACOCEA[1], S. CONSTANTIN[2]

[1]Department of Physiology I, University of Medicine and Pharmacy "Carol Davila", Bucharest
[2]Emergency Department, Emergency University Hospital, Bucharest

The poisonings with CO are accidental, more frequently as domestic emergencies. As a result, this kind of poisoning is important because of:-the difficulties in establishing the right diagnose in the cases the CO acts along with other poisoning gases;-the high frequency and the type of poisonings.In our study we followed up the AST and ALT as biochemical parameters, and the number of platelets, APTT and INR, as the clotting system parameters.The study was made on 41 patients, males and females, grouped in:-group 1, made of 15 patients, aged 40-83 yrs;-group 2, made of 26 patients, aged 17-40 yrs.The measurements were made at the admission and 6 hrs later.The results showed:-insignificant changes of AST and ALT in both groups;-decrease (slightly significant) of the number of the platelets after 6 hrs in group 1;-increase (slightly significant) of the INR after 6 hrs in group1;-different variations of APTT after 6 hrs in both groups.

35.ERRORS IN LOCATION EPILEPTIC FOCUS

DAN ŞTEFAN CIOROIANU[1], ADRIAN NEŞTIANU[2], FLORIN ROMANESCU[3], MARIUS CRISTIAN NEAMȚU[1], TUDOR-ADRIAN BĂLŞEANU[3], SMARANDA IOANA MITRAN[3]

[1]University of Medicine and Pharmacy Craiova, Faculty of Midwives and Medical Assistance, Department of Normal and Pathologic Physiology
[2] University of Medicine and Pharmacy Craiova, Faculty of General Medicine, Department of Pathologic Physiology
[3] University of Medicine and Pharmacy Craiova, Faculty of General Medicine, Department of Normal Physiology

In mapping the brain, under the form of maps, energy is converted into an area that takes the appearance of a true geographic relief. Depending on way of monopolar reference collection, a comitial focus can be shown in the side opposite the real one.There were used a digital electroencephalograf and monopolar collections (standard Cz, and average AC - Laplace), EEG recordings were made under standard conditions. Each patient was subject to amplitude, frequency, energy, delay mapping, as well as Burchi and FFT mapping.

By direct reference (with referential electrode Cz which is close to the lesion focus) EEG route is ample, but the mapping, does not indicate the genuine, real focus in the left side, anterior to posterior, due to the contamination of the referential electrode A2 (right auricular) with large comitial potentials arisen from the temporal electrodes near the right ear. Paradoxically, the mapping indicates a certain higher activity in left side where the right focus is less propagating "in the mirror". If average reference is used, the routes are less extensive and the real focus on the right appears prior to posterior - opposed to the previous image since average virtual reference was not contaminated. Using Laplace reference comitial focus (inter-critical) appears more circumscribed in two separate points anterior and posterior in the right, and the routes are less extensive. For an adequate sample of cortical electrical field is preferably used polynomial interpolation between areas measured rather than linear interpolation, in order to reconstruct the real aspect of the map relief.

Key words: mapping, EEG

36.THE ENDOCANNABINOID SYSTEM: IT'S KEY ROLE IN THE APPEARANCE OF THE CARDIO-METABOLIC RISK FACTORS

PETRIŞOR CISMAŞ-PRUTEANU, MAGDALENA CISMAŞ-PRUTEANU, CEZAR GEORGE BADALE, ANDREA CISMAŞ-PRUTEANU

University of Oradea, Faculty of Medicine and Pharmacy

Endocannabinoids (ECs) are endogenous lipid substances which elicit biological effects similar to those of marijuana via activation of

G protein-coupled cannabinoid receptors (CB1 and CB2, as well as additional, as yet unidentified receptors). The two best characterized ECs are arachidonoyl ethanolamide (anandamide) and 2-arachidonoylglycerol (2-AG). Both CB1 and CB2 receptors are expressed in the myocardium and the vasculature. ECs and their synthetic analogs exert potent hypotension via CB1 receptor-mediated sympathoinhibitory, negative inotropic, and vasodilatory effects. Activation of endothelial CB2 receptors by endogenous or exogenous ligands limits endothelial inflammatory response, chemotaxis and adhesion of inflammatory cells to the activated endothelium, and consequent release of various proinflammatory mediators (key processes involved in the initation and progression of reperfusion injury and atherosclerosis). CB2 receptor activation on immune cells mediates additional anti-inflammatory properties. Selective CB2 agonists may be useful in the treatment of various forms of reperfusion injury. Activation of the EC system has been implicated in hypotension and/or decreased myocardial contractility associated with hemorrhagic, endotoxic, septic, cardiogenic, shock, advanced liver cirrhosis, heart failure secondary to doxorubicin treatment, and as a compensatory mechanism in various forms of hypertension. Activation of the EC system contributes to the cardiovascular risk associated with obesity/metabolic syndrome and diabetes (abdominal obesity, plasma lipid alternations, insulin and leptin resistance).

Key words: endocannabinoid system, CB1 and CB2 receptors, cardio-metabolic risk factors.

37.PREDICTIVE MARKERS FOR EARLY LIVER FIBROSIS DEVELOPMENT IN TOXIC HEPATITIS EVOLUTION

S.CLICHICI[1], C.CATOI[2], T. MOCAN[1], A. FILIP[1], C LOGIN[1], A. NAGY[2], D.DAICOVICIU[1], N. DECEA[1], S.SUCIU[1], A. MUREŞAN[1]

[1]Department of Physiology, "Iuliu Hatieganu" Univ of Medicine and Pharmacy Cluj-Napoca, Romania
[2]University of Agriculture and Veterinary Medicine, Morphopathology Department, Cluj-Napoca, Romania

Introduction: Carbon tetrachloride (CCL4) induced hepatitis is an effective experimental model for the study of the liver dysfunction, diffuse fibrosis and cirrhosis. We used the CCL4 model to correlate oxidative stress markers with the presence of liver fibrosis. Our study aimed to identify predictive, non-invasive parameters of early fibrosis development in toxic hepatitis evolution. Material and Method: The 20 animals (male Wistar rats, weight 200±10 gr) were randomly and equally divided into two experimental groups. CCL4 was intragastrically administered twice a week to the test group, (1.2 ml/kg, CCL4 25% in sunflower oil). Control group received sunflower oil following the same standard administration protocol. After 4 weeks of treatment, plasma levels of malondialdehyde(MDA), carbonylate proteins(CP), hydrogen donor ability (HD), sulfhydryl groups(SH), gluthation(G) and nitric oxide(NO) were measured. Histological examination of the liver was also performed. Statistical analyses included non-parametric Mann-Whitey U Test as well as receiver operating characteristic analysis with areas under curve (AUROC) determinations. Results: Centrolobular fibrosis with vacuolar dystrophy and hepatocitar necrosis (individual cells) was histologically demonstrated in the CCl4 treated group. Significant differences between groups were obtained for SH(p0.045), DH(p0.011), PC(0.024). GH levels were marginally significant (p0.070). Predictive values of the four markers were validated by AUROC values. The highest predictive marker was DH(0.871, p<0.0001), followed by PC(0.829, p0.003), SH(0.793, p0.014) and G(0.764, p0.034). Conclusions: Our data suggest that oxidative stress markers may become useful predictive markers of early fibrosis development in toxic hepatitis.

Keywords: oxidative stress, predictive markers, toxic hepatitis, early fibrosis

38.ANGIOTENSIN INVOLVEMENT ON ADENOSINE INDUCED BRONCHIAL HYPERREACTIVITY

COJOCARU ELENA[1], PETRESCU BOGDAN CRISTIAN[2], DUMITRIU IRINA LUCIANA[1], COSTULEANU MARCEL[2], GURZU BOGDAN[1], SLATINEANU SIMONA MIHAELA[1]

[1]Department of Physiology, School of Medicine
[2]Department of General Pathology, School of Dentistry "Gr T Popa" University of Medicine and Pharmacy Iasi, Romania

It is known that adenosine is an endogenously purine nucleoside which plays a significant role in regulation of airways tone and reactivity by multiple and incompletely known mechanisms, including the release of endogenously active peptides from mast cells. Published data suggest that releasing of enzymes from activated mast cells could activate the intrapulmonary renin angiotensin system (RAS). In this study, we investigated the involvement of angiotensin II (Ang II) in adenosine-induced bronchoconstriction in an experimental model of allergic asthma. On bronchial rings from ovalbumine (OVA) sensitized rats, after in vitro challenge, adenosine induced small contractile effects which became significantly after indometacine pre-treatment. On the other hand adenosine pre-treatment amplified bronchoconstriction induced by the allergen (OVA) challenge and reduced bronchial relaxation of acetylcholine pre-contracted bronchial rings by cumulative doses of terbutaline. All these effects are significantly lower on rats treated with losartan (a blocker of Ang II type 1 specific receptors, AT1) in the last two weeks of sensitization protocol (50 mg/kg/day). Our data confirmed the participation of RAS activation to adenosine induced bronchial hyperreactivity in pathologically states as antigen sensitization and challenge.

Key words: adenosine, angiotensin, asthma, rat

39.A FRACTAL ANALYSIS OF CORNEAL VASCULARISATION

LAURENTIU COMAN[1], OANA COMAN[2], ANCA BADARAU[1]

[1]Department of Physiology 1, University of Medicine and Pharmacy "Carol Davila", Bucharest
[2]Department of Pharmacology and Pharmacotherapy, University of Medicine and Pharmacy "Carol Davila", Bucharest

Various pathological conditions may cause vascularisation of the normally avascular and transparent cornea. The corneal pathologic vascular tree exhibits fractal characteristics. The purpose of this study was to investigate the fractal geometry of corneal vascularisation and relate it to different growth models which may have implications in the understanding of fundamental process involved in vasculogenesis. Digital photographs of 18 cases of severe superficial corneal vascularisation were obtained from accidentally alkali burned eyes long after the acute

inflammatory reaction was over. The fractal dimensions of these vessels patterns was calculated by means of the density correlation function method (D1,893±0.004), n. These results suggest the importance of the surface characteristics of the invading cells as well as that of the extracellular matrix and the related interaction between them.

Key words: corneal vascularisation, alkali burns, fractal analysis.

40.ASPECTS OF VASOMOTOR REACTIVITY AND CEREBRAL DOPPLER VELOCIMETRY TO A LOT OF ALZHEIMER\'S DISEASE PATIENTS

M. COTEANU[1], AURA CIOBANU[2], SIMONA GUSTI[3], ALICE GUSTI[4]

[1]Departament of Neurology, County Hospital, Slatina, Romania
[2]Neurology Clinic, Clinical Neuropsychiatry Hospital, Craiova, Romania
[3]Departament of Physiology, University of Medicine and Pharmacy, Craiova, Romania
[4]Departament of Physiology, Faculty of Physical Education and Sport, University, Craiova, Romania

Introduction: A close relationship between Alzheimer's disease and the cerebral vasculature has long been recognised.

Recent studies have reported that the severity of atheromatous deposits in the circle of Willis is significantly greater in subjects with neuropathologically diagnosed Alzheimer's disease (AD), comparative to non-demented people (ND).

Objective: The aim of the study was to examine the vascular integrity and assess the vasomotor reactivity of Alzheimer's disease patients in condition of hypoxia caused by breath holding. Methods: We studied 12 patients with diagnosed Alzheimer's disease, using transcranial Doppler. Vasomotor reactivity was calculated used breath holding index .

Statistically analysing dates of Doppler parameters: mean velocity flow of the internal carotid artery siphon, the middle cerebral artery and the posterior cerebral artery right and left in basal condition and mean velocity flow of the middle cerebral artery in apneea, we calculated breath holding index and compared to the parameters of a group of 14 clinically healthy persons. The patients were divided into two subgroups and were staged according to Mini Mental State Examination (MMSE). Results: Mean flow velocities were generally lower in patients with AD but the differences did not reach the significance level. The internal carotid artery siphon and the posterior cerebral artery were the two vessels that were strongly associated with AD diagnosis. Mean flow velocities were systematically lower in the group whose MMSE scores were <20 than the ones whose MMSE scores were >20. The AD patients had significantly lower Breath Holding Index ($p<0.005$) than the ND group, and no significant differences between two subgroups. Conclusion: Our datas make consider that there is a posible relationship between the the vasomotor reactivity and Alzheimer's disease.

41.A STUDY REGARDING THE POSSIBILITY OF USING PREDICTIVE CONTROL FOR BLOOD GLUCOSE SYSTEM

VIORELA CRISTEA, DANIELA DINCĂ, VLAD FLORIN IOVĂNESCU, ELENA PREDUȚ, IONELA IANCU
University of Medicine and Pharmacy of Craiova, Faculty of Medicine

The mellitus diabetes is a disease with serious social implications through the large number of people affected, complications and high costs that it involves. The realisation of the artificial pancreas is presently a fundamental high priority research with a strong interdisciplinary character. We propose a procedure to design a linear output-feedback controller for blood glucose system. The controller stabilizes the system in the presence of delays, sampling, etc. The closed-loop system with delays, sampling, can be modeled as delay differential equations. Numerical simulations show that the proposed design method is significantly better than the existing ones. The direct insulin control system for insulin pump adapts the necessary insulin quantity in the case of food intake, physical effort, during sleep or at patients found in a critical state and assisted in the intensive care section. In these conditions, the determining of the insulin dose requires a predictive control system in regard to the disturbing situation. The main advantage of the predictive control consists in a proper insulin dosage taking into account delays generated by the absorption and processing of the rapid acting insulin medication.

Key words: blood glucose control, predictive control, mathematical model, artificial pancreas.

42.THE IMPACT OF EMOTIONAL STRESS OF PUPILS

CRIVOI A., BACALOV IU., GHERMAN I., CASCO D., PRODAN M., VEGHE EVA-MARIA., MATEI V., COJOCARI L., BÎLICI T.

State University, R. Moldova

Childhood and adolescence are the pillars of formation and immunization of physic and psyhic healt of human body. Many of psycho somatic pathologies observed at adults presents the marks remained after the action of unfouvorable factors and stress stares durin prenatal, childhood and adolescence development. Modern environmeut forces through the increase of informational volume, intellectual supradoses, hypokinesis, food deficiency, conflict situations creating predispositions to homeostatic modifications, great energy loss, vegetative disfunctions. Physiologic science include numerous investigations of stressogene difficulties, but still remain unsearced the amaunt of emotional stress and its affects on body development. Emotional stress determines neuronal, cardiovascular, endocrine, digestive, psihic pathologies, which are in boosting dynamics, caused by psycho emotional traumas and emotive stress stares. The aim of the research was the study of the dynamics of psyhologic, cardiovascular, neuronal, hormonal, metabolic changes under the influence of educational stress at teenagers, and the possibilitres to avoid advanced stares with pathological concequences by psychoemotional adaption being correct and equilibrate. The results showed that resistance aud level of adaptation of teenagers manifested individual pecularition with over dominance of vagotony and simpatotony, of the level of anotomophysiologic maturity, level of stable auxienty persistence, ensuring forming of tough personality, adapted to the variance of body-environment interactions. Teenagers whith good pshysic education possess the capacities of quick rehabilitation of cardiac contractions and artherial tension, so dynamism efficiency puts its finger-print on the adaptive tendency of the organism to the action of stress factors.

Key words: emotional stress, impact, metabolic changes, adaption

43.PHYTOTHERAPY OF DIABETES

CRIVOI A., BACALOV IU., GHERMAN I., CASCO D., PRODAN M., VEGHE EVA-MARIA., MATEI V., COJOCARI L.,CROITORI C., BÎLICI T.

State University, R. Moldova

Medicinal plants are widely used in medical practice nowadays in RM are used over 150 species of medicinal plants as hypoglucemiats at initial stages of Diabetes. Most of them are well known in clinic medicine, others are still in research. It is considered that they contain a complex of vitamins and microelements in am optimal combination for organism. Plants with similar therapeutic effects are named adjuvants. They incrase the efficiency of the terapy, through the combination of their activity. The research results showed that the extracts from medicinal plants possess a positive influence on haematologic indices,biostimulative proprietes on functional activity of pancreas, thyroid and gonads by their tendency to normalize hormone content in blood,that represents an important role in preventing diabetes complicacy vegetal complex from black berry : floss, roseberry, increased adaptive and stimulator potential, which was revealed by clinic, haematologic and hormonal manifestations. This results allov to occlaim that first stages of the disease there were observed the tendency of normalization of thyroidian status and significant increase of sexual hormones in blood. This complex is characterized by its low toxicity, back of cumulative proprieties and, as usuad, the lach of antagonistic effects, that is very important in the therapy of diseases with chronic ethiology.

Key words: diabet, medicinal plants, thyroid, medicinal plants

44.THE ANTIOXIDANT EFFECT OF VITAMIN C ON THE DENTAL CAVITIES

CAMELIA DALAI[1], ADRIANA PIRTE[1], CIPRIAN DALAI[1] MARIANA MURESAN[1], OTILIA MICLE[1], LIANA MICLE[1], RALUCA IURCOV[1], ALINA VENTER[1], MIRCEA DOROFTEIU[2]

[1]Medicine and Pharmacy Faculty Oradea, Romania
[2]University of Medicine and Pharmacy , Cluj Napoca, Romania

Introduction. Reaserches on the saliva have shown its importance in the diagnoses of varios disease in medical practice. To the properties of saliva such as cleansing solution,a lubrificant,an ions reservoire and buffer it can be also added a first line of defence against ROS mediated oxidative stress.Vitamin C is an important water-soluble vitamin for humans and a powerful reducing agent. It also protects plasma lipids against lipid peroxidation. The aim of our study was to demonstrate the evolution of the salivary oxidative stress in persons with dental caries and if the administration of vitamin C improves the antioxidant capacity and if there are significant modifications of transaminases, phosphatase, LDH or C-reactiv protein (CRP) in saliva. Material and method. The studied persons were divided into 2 groups (each group consisting of 16 persons), one group with a single tooth with a carious process non- smokers, and the otherone with multiple caries. The first group took 200 mg vitamin C 3 time a day, for 3 weeks. For proving the salivary and serum oxidative stress we established the level of MDA utilizing the method with tiobarbituric acid and ceruloplasmin with Ravin method. GOT and GPT, alkaline and acid phosphatase, LDH and CRP were determined in saliva on analyzer HITACHI 912, Roche Diagnostic, Switzerland, using reactive Greiner Diagnostic, Germany. The obtained results were compared to an experimental group of 15 volunteers with no dental lesions or restorations. Resultes. Salivary MDA was significantly increased in the group with a single tooth with a carious process and in the group with multiple caries.The same was in blood sample of those groups.These researches could be an indirect prove that serum MDA do not pass in saliva through filtration. Our investigations attested the strong antioxidant efect of vitamin C even in small doses. Salivary level of MDA was reduced. The tissues dental destruction and periodontitis was testified by the increase of salivary transaminses. The presence of proceses of inflamation was pointed out by the increased concentrations of LDH and CRP. The bony reshaping caused by the studied dental lesions was reflected in the variations of alkaline and acid salivary phosphatase. Conclusions. This findings suggest that there was a high level of MDA and lower salivary ceruloplasmin level caused by the carious process. Our study indicates the protective effects of vitamin C in saliva for the prevention of oral inflamations. The level of GOT, GPT,LDH ,CRP indirectly indicates the presence of an inflamatory process. Key words: carious process, stress oxidative, vitamin C.

45.STUDY REGARDING THE OVERALL FLEXIBILITY IN WOMAN WITH MITRAL VALVE PROLAPS

DANOIU SUZANA[1], DANCIULESCU RUCSANDRA[2], SFREDEL VERONICA[1], CATALINA POIANA[2], DANOIU M.[3]

[1]University of Medicine and Pharmacy Craiova
[2]University of Medicine and Pharmacy Carol Davila Bucharest
[3]University of Craiova

Aims. Connective tissue disorders affecting joints mobility and leaflets mitral excursion may have common histological and biochemical support making the woman with mitral valve prolaps (MVP) more flexible than the general population. The objective of this study was to confirm if the adult woman with MVP presents joints hypermobility comparing with woman who have not this pathology. Material and methods. We studied a sample of 98 adult woman, average age 42 yrs, 15 of them was been previously clinical and echocardiographic diagnosed with MVP. The passive joints movement from 20 kinds of movements was evaluated performing the Flexitest and tree simple hyperlaxity tests. Statistical analyses were performed by *t* test for interval data and by the $(chi)^2$ test for ordinal or nominal data. Results. Woman with MVP presented a higher level of body flexibility comparing with the others without MVP (The Flexindex was significantly higher in the women with MVP - $p<.02$). No one of them presented generalized hypermobility.

Keywords: mitral valve prolaps, flexibility, joint hypermobility

46.THE EFFECT OF SOME ANTIHYPERTENSIVE DRUGS ON NITRIC OXIDE SYNTHESIS AND OXIDATIVE STRESS IN ACUTE EXPERIMENTAL INFLAMMATION

DHAOU YOUSRA[1], MOHAMMAD SADEK ASHOUR[1], TARIG OMER ELAMIN[1], PARVU ALINA ELENA[2]

University of Medicine and Pharmacy "Iuliu Hatieganu", Cluj-Napoca

Antihypertensive drugs interact with mediators that are also involved in the inflammatory responses, such a neuropeptides, adrenergic receptors, and vascular tone modulators. Therefore, we aimed to study the effect of antihypertensive drugs on NO synthesis and oxidative stress in acute experimental inflammation. We used 6 groups of Wistar-Bratislawa male rats with turpentine oil-induced inflammation: a positive inflammation control with no treatment, five groups treated respectivelly with almodipin, felodipin, telmisartan, valsartan and nifedipin, a group treated with with L-NAME, and a group treated with trolox. NO synthesis was evaluated by serum nitrites and nitrates measurement, and oxidative stress was evaluated by total oxidative status and total antioxidative reactivity determination. The results showed that al drugs reduced significantlly nitric oxide synthesis and oxidative stress. The inhibitory effect on NO synthesis was smaller than that of L-NAME. The antioxidative effect was not significant. In conclusion, almodipin, felodipin, telmisartan, valsartan and nifedipin had antiinflammatory effect due to the inhibitory action on NO synthesis and oxidative stress associated to the acute experimental inflammation.

Key words:antihypertensive drug, inflammation, nitric oxide, oxidative stress

47.THE ACUTE EPIRUBICIN ADMINISTRATION INCREASED THE UROTENSIN II CONTRACTILE EFFECTS ON RAT CORONARY ARTERY

MARIA DINCA, PETRESCU BOGDAN CRISTIAN, VATA LUMINITA GINA, MIHAI CAMELIA ANA, DUMITRIU IRINA LUCIANA, GURZU BOGDAN, PETRESCU GHEORGHE

Department of Physiology, University of Medicine and Pharmacy "Gr T Popa" Iasi

In this study we aimed to evaluate the effects of epirubicin administration on coronary reactivity by measuring isometric tone of ring segments of the isolated rat left anterior descending coronary artery on wire myograph. The experiments were conducted in two groups of male Wistar rats: untreated control rats (NR) and epirubicin-treated rats (ETR). The left anterior descending (LAD) coronary artery rings were precontracted with urotensin II (1nM to 1 microM, U_II) and the relaxant responses to cumulative concentration of acetylcholine were subsequently studied. The experiment were carry out in the absence and in the presence of N(G)-nitro L-arginine methyl ester (L-NAME) or aminoguanidine (AG). The results of this study indicate epirubicin treatment alter the reactivity of rat LAD coronary arteries by increasing contractile effects of U_II (with more than 33%) and reducing Emax of ACh-induced vasorelaxation up to 25%. The blunted ACh response of LAD coronary artery rings from ETR was reduced even more and in the same manner by both L-NAME and AG. These results suggest that epirubicin treatment increased U_II contractile effects and decreased the ACh – induced relaxation by alter the nitric oxide (NO) synthesis.

Key words: epirubicin, urotensin, left anterior descending coronary artery

48.THE ACQUISITION OF COGNITIVE EVOKED POTENTIALS USING A PSYCHO-VERBAL STIMULATION INTERFACE

BOGDAN DIONISIE

University of Medicine Iasi, Romania

Objective – The psycho-verbal stimulation interface, created by us, represents an IT extension of an EEG / EMG device dedicated for the human brain Evoked Potentials acquisitions (EPs). Methods - The psycho-verbal stimulation interface was created as a .NET application and was written in the C# language with respect to the OOP paradigm. It uses the TTL logic to command the EPs acquisition module. The signal is send on the parallel port (LPT1) to the EPs device by a dedicated hardware interface. Results - The software module was designed as a multithreading application in order to perform more than one operation once. The stimulus sample can be customized as text, images or both and each stimulus sequence follows also a fully configurable time schema. The application can measure the patient's reaction times to each stimulus sample, which are centralized finally on a list control. The system can save both the test sequences and the EEG diagrams in digital formats; the files can be stored and delivered online using the telemes web application. Conclusions - The Telmes project implemented a secured & scalable telemedical centers network dedicated to the telemonitoring & teleconsulting services, and the psycho-verbal stimulation interface is one of the instruments devoted to these goals. The psycho-verbal stimulation interface can be used as a medical research tool for study the cognitive processes of reading, memory or learning using the endogenous visual event related potentials, as good as a instrument of training the recovery of sensitive language which can be delivered at home by the neuronlinguist specialist as daily lists programs. The visual evoked potentials and the reaction times collected from the patients can facilitate a prognostic diagnosis of recovery the language.

Keywords - psycho-verbal stimulation interface for evoked potentials, language research & recovery, eHealth – telerehabilitation.

49.THE EFFECT OF LEXICAL SIMILARITY IN THE WRITTEN MESSAGE PRIMING STUDIED BY USING COGNITIVE EVOKED POTENTIAL AND REACTION TIMES TECHNIQUES

BOGDAN DIONISIE

University of Medicine Iasi, Romania

Objective – The redundancy among lexical elements in similar word can create a facilitatory or inhibitory effect in lexical processing and for this purpose several issues persuated me to evaluate lexical similarity using ERPs and RT techniques. Methods – I study de N400 component on Evoked potentials technique (ERPs) which is impervious to decision based processing while replicating existing behavioral findings. I use lists of words an pseudowords with low frequency and different degree o lexical similarity in lexical decision and semantic categorization tasks. Results – Pseudowords from large neighborhoods produced larger negativity in the region of the N400 than pseudowords from small neighborhoods and words with large neighborhoods produced large negativities in the region of the N400 than words with small neighborhoods. Conclusions –

The findings from these experiments illustrate how electrophysiological data can be used to augment more traditional measure such as RT in studies of language comprehension.

Keywords – lexical similarity of word and pseudowords, event related potentials ERPs, reaction times RT

50.NITRIC OXIDE AND OXIDATIVE STRESS IN UVEITIS ASSOCIATED WITH RHEUMATIC INFLAMMATORY DISEASES

BIANCA DOBRE[1], CRISTINA DOBRE[2], CRISTINA STAN[1], ALINA PÂRVU[1]

[1]University of Medicine and Pharmacy "Iuliu Hatieganu" Cluj-Napoca
[2]Therapy and Diagnostics Center Cluj-Napoca

Uveitis is often associated with systemic, rheumatic inflammatory diseases such as ankylosing spondylitis, sarcoidosis, juvenile idiopathic arthritis or Behcet's disease, as an extra-articular manifestation. The mechanisms are poorly understood. The aim of the study was to evaluate nitric oxide and oxidative stress involvment in uveitis cases associated with inflammatory rheumatic diseases. The study group consist of 30 patients with rheumatic inflammatory diseases. The control group were 30 patients with rheumatic inflammatory diseases without uveitis. In serum and tears we measured nitric oxide synthesis by Griess test, and oxidative stress by total oxidative status and total antioxidative reactivity. According to the results we concluded that in patient with uveitis associated to rheumatic inflammatory diseases there is a significant increse of nitric oxide synthesis and oxidative stress, compared to the patients with rheumatic inflammatory diseases and no uveitis. These results suggest that reducing nitric oxide synthesis and oxidative stress may represent an important therapeutical target.

Key words: uveitis, rheumatic disease, nitric oxide, oxidative stress

51.THE WAY PATIENTS EXPERIENCE FEAR OF WHITE COAT IN DENTAL OFFICE COMPARED TO GENERAL PRACTITIONER'S OFFICE

DIANA DODONETE[1], DIANA CONSTANTIN[1], CRISTINA DOBRE[1], MIHAI IOAN[1], DANIELA BĂDIȚĂ[2], ALEXANDRU CROITORU[3]

[1]Carol Davila University of Medicine, Dental Medicine Faculty, Bucharest, 1st year students
[2]Carol Davila University of Medicine, Dental Medicine Faculty, Bucharest, Department of Physiology
[3]Carol Davila University of Medicine, Dental Medicine Faculty, Bucharest, Pathophysiology and Immunology Department

We have undergone a study on a batch of 40 patients, aged between 35 and 75 years that had come into the doctor's office during February and March 2009. We used a standardized questionnaire and we measured the patients' systolic and diastolic blood pressure and the heart rate, in order to compare the way they feel in the dentist's office and in the general practitioner's office. We reached to the following conclusions: Admitted or not by the patients, anxiety is shown to be increased in those coming for a dental consultation. The white medical coat seems to be a reason for the rising of the determined parameters and for the augmentation of the anxiety level in almost every patient, compared to coloured coats. We have also observed that individual parameters such as profession, age and gender have different impacts on blood pressure and heart rate. Profession is not a relevant criterion because even highly educated people enhanced signs of fear. The elders' blood pressure fluctuated more than that of the young patients. When comparing blood pressure variations according to the gender of the patient, we observed that, although the majority of male patients said that coming into the doctor's office doesn't stress them, the registered values showed exactly the opposite. Women, on the other hand, admitted that visiting the doctor scared them which it was actually confirmed by the significant increased variations of blood pressure and heart rate.

52.PARTIAL METHYLATION OF CPG ISLAND PROMOTER OF IGF-1R IN NON SMALL CELL LUNG CANCER

ANICA DRICU

University of Medicine and Pharmacy of Craiova

Epigenetic modifications have been described to be involved in the pathogenesis of lung cancer. Up till now, three different mechanisms have been described like epigenetic modifications: RNA-associated silencing, DNA methylation and histone modifications. Recently, we showed that *igf-1r*- siRNA down-regulated the IGF-1R expression and effectively induced cell death in NSCLC cells. In this work, we were interested to study the IGF-1R methylation status in NSCLC cells and propose that IGF-1R hypomethylation may provide a basis for potential use of hypermethylating agents for lung cancers treatment. First, we analysed the DNA methylation patterns of IGF-1R CpG island in 6 NSCLC cell lines that expressed IGF-1R at the cell surface and found partial methylation of *igf-1r* gene in all cell lines analysed. To determine whether increasing the *igf-1r* methylation is associated with IGF-1R downregulation and thereby inducing cell death in NSCLC cells, we treat the cells with S-adenosylmethionine (SAM), a hypermethylating agent. NSCLC cell lines cell lines had different levels of sensitivity to SAM treatment. Unexpectedly, we found that the SAM treatment did not change the *igf-1r* methylation status or the levels of IGF-1R protein expression in any NSCLC cells analysed, suggesting that SAM-induced cytotoxicity is independent of *igf-1r* methylation status in NSCLC cells.

53.THE ACTIVATION OF INTRABRONCHIAL RENIN ANGIOTENSIN SYSTEM DURING ALLERGIC LUNG DISEASE

DUMITRIU IRINA LUCIANA[1], PETRESCU BOGDAN CRISTIAN[2], COJOCARU ELENA[1], CIUREANU IOANA STEFANIA[1], COSTULEANU MARCEL[2], GURZU BOGDAN[1], SLATINEANU SIMONA MIHAELA[1]

[1]Department of Physiology, School of Medicine
[2]Department of General Pathology, School of Dentistry "Gr T Popa" University of Medicine and Pharmacy Iasi, Romania

All components of the renin angiotensin system (RAS) were identified on bronchial wall and their involvement on pulmonary diseases is well

known. To analyze if antigen sensitization and challenge could modify the synthesis of angiotensin (Ang) II on bronchial walls and to what extent locally produced Ang II modulates bronchial reactivity. Bronchial rings were obtained from normal and ovalbumin sensitized male Wistar rats and changes in tension induced by angiotensinogen (Aogen) and Ang I, acetylcholine (ACh) and terbutaline were assessed by myography. Studies were performed in absence or presence of valsartan (blocker of Ang II type 1 receptors, AT1), pepstatin A (a renin blocker), teprotide (angiotensin I converting enzyme inhibitor) and chymostatin (chymase inhibitor). Results obtained from bronchi of sensitized rats after in vitro challenge (SRCB) and normal rat bronchi (NRB) were comparatively evaluated. The Aogen and Ang I-induce AT1 mediated bronchoconstriction. The Emax of ACh was amplified by 15% on NR and by at least 20% on SRCB. Ang I decreased the Emax of terbutaline by 35% on NRB and to a half on SRCB. Ang I effects were decreased by teprotide (on NRB and SRCB) and chymostatin (only on SRCB). The Aogen had lower effects as compared with Ang I. The pepstatin A pretreatement only partially reduced the Aogen contractile effects, but did not modified the Aogen-induced decreasing of terbutaline effects. Our data revealed that locally produced angiotensins modulates the bronchial reactivity and indicates bronchial RAS blockade as a potential antiasthmatic tool.

Key words: angiotensinogen, angiotensin I, asthma, rat.

54.SUBCLINICAL HEPATIC ENCEFALOPATHY EVALUATION BY NUMBER CONNECTION TEST (NCT)

VIORELA ENACHESCU[1], VERONICA SFREDEL[2], SIMONA TUDORICA MICU[1], C. EFREM[1]

[1]III[rd] Medical Clinic, Clinical Hospital no.2
[2]Department of Physiology
University of Medicine and Pharmacy of Craiova

Introduction: NCT, permits serial, orientative or semiquantitative assessment of minimal changes in intelectual capacity of the patients with liver hepatitis or cirrhosis. Aim: To evaluate the relationship between NCT and the Child-Pugh score of liver hepatitis and cirrhosis. Method: 42 hospitalised patients with confirmed liver C hepatitis or cirrhosis were included. We perform a clinical, biological and ultrasound diagnosis for all the patients (11 patients were histologically confirmed) and also two NCT for each patient, before and after the treatment. The patients`age ranged was from 28 to 76 years old. Results: 30 patients had ascites (71.42%) . A etiological diagnosis of liver disorders was: viral hepatitis in 26 cases (61.90%), alcoholism in 12 cases (28.57%), both in 3 cases, primary biliary cirrhosis in 1 case. Acording to Child Pugh classification 16 patients (38.09%) were class A cirrhosis, 20 patients (47.61%) were class B and 6 patients (14.28%) were class C. The mean NCT value (in seconds) was 69.85+21.17``, 142.21+92.3`` and 272.58+202``, for the first and respectively second and third class. The mean values were 183.26+87.19`` and 89.27``+28.2`` respectively for ascitic and non-ascitic cirrhosis. The difference of NCT values between classes A and B and between classes A and C were statistically significative ($p<0.001$). There was also significative difference between the NCT values found in ascitic and non ascitic forms of cirrhosis. Conclusions: NCT is important in detecting and evaluating the intellectual impairment in patients with liver hepatitis and cirrhosis and it can also be used for the diagnosis of subclinical forms of hepatic encefalopathy

55.COMPARATIVE STUDY OF THE PARAMETERS OF SOMATOSENSITIVE EVOKED POTENTIALS IN SPORTSMEN

DENISA ENESCU BIERU[1], B. CATALIN[2], D. GEORGESCU[2], GERMINA COSMINA[1], C. FORTAN[1], C. POPESCU[1], M. GEORGESCU[2], MARIA IANCAU[2]

[1]University of Craiova, Faculty of physical Education and Sport
[2]University of Medicine and Pharmacy, Craiova

Our study aims at evaluating some parameters of the somatosensitive evoked response in sportsmen from a variety of disciplines: volleyball, handball, fencing, the investigation functionally exploring the conduction of the influx in the somatosensitive system, with a large proprioceptive participation. The study group was made up of 18 male subjects, aged between 16 and 24 years of age, professional sportsmen, with experience in their chosen discipline of at least 5 years. The evoked somatosensitive response was recorded with a MEP 150 Nihon-Kohden device, and was obtained by stimulating the median nerve, at the level of the radiocarpian articulation, bilateral, successive. The stimulation was made with electric stimuli of an intensity superior by 3-4 mA to the motor threshold, with a stimulus duration of 0.2 ms and a stimulation frequency of 3 Hz. The evoked potentials were obtained with electrodes placed on the scalp (reference electrode was Fz) , the active electrodes were placed counter laterally to stimulation (C3' and C4' respectively) . Extracting the evoked potential from the electroencelographic recording was made by averaging 250-300 answers. The obtained recordings have shown components from P14 to 45, deflections to which latencies, amplitudes and inter-maximum point intervals (P14-N20, N20-P25) were computed. Only the wave latencies and intracranial conduction intervals were retained for statistical processing. The recorded results show wave latency average values that do not show statistically significant differences neither for the two stimulated members nor for the sportsmen subgroups. Positive correlations were shown for the P1, P3, N3, P4 waves in the case of left-right differences for the entire study group. Right-left correlation for the sports comparison does not respect the pattern for the entire study group.

Key words: somatosensitive potentials, sportsmen, waves latencies

56.ASPECTS OF THE ANALYSIS OF THE EEG SPECTRUM FOR PROFESSIONAL SPORTSMEN

DENISA ENESCU BIERU[1], B. CATALIN[2], D. GEORGESCU[2], GERMINA COSMINA[1], C. FORTAN[1], C. POPESCU[1], M. GEORGESCU[2], MARIA IANCAU[2]

[1]University of Craiova, Faculty of physical Education and Sport
[2]University of Medicine and Pharmacy, Craiova,

Our study aims at obtaining EEG patterns, representative for sportsmen of multiple disciplines, which would characterize certain activities. Our study group was made up of 28 subjects (18 male and 10 female), professional sportsmen/sportswomen with activity ranging between 5 and 12 years in the disciplines of fencing, handball, volleyball. Electroencephalographic recordings were made on 16 channels with a Nihon-Kohden device, with the electrodes placed in a 10-20 system, the

time constant being 0.3 seconds and the highcut filter 50 Hz. Activities followed while recording the EEG were: relaxed state, closing the right fist, closing the left fist, command to close the right fist without physical execution, command to close the left fist without physical execution. After each command activity, the subject was in a relaxed state, before performing the next command. The EEG Mapping QP-220AK was used for spectral analysis of the EEG, and time frames without artifacts and characteristic to each activity were selected. Spectral analysis followed the classical frequencies of the EEG: Delta, Theta, Alpha1, Alpha2, Beta1, Beta2, by analyzing the maximum energy frequency, the average frequency and the median frequency. The increase of Alpha2 activity in the areas corresponding to electrodes C3, P3, T3, C4, P4, T4 was observed.

57.MALE INFERTILITY AND BHMT G742A POLYMORPHISM

MARIUS FLORIN FARCAŞ, FLAVIU ANDREI CSERNIK, PAVEL TRIFA, TANIA CRISAN

"Iuliu Haţieganu" University of Medicine and Pharmacy

BHMT (Betaine-homocysteine methyltransferase) is a cytosolic enzyme, present in the liver and kidneys, which catalyzes the conversion of betaine and homocysteine to dimethylglycine and methionine, respectively. Methionine is a precursor of SAM (S-adenosylmethionine), the principal methyl donor in the process of nucleic acid, protein and lipid transmethylation. The G742A polymorphism of the gene encoding BHMT is associated with a reduced enzyme activity and therefore can give rise to a high level of plasma homocysteine, a condition which is known to generate serious metabolic disturbance. We have analyzed the frequency of the 742G→A polymorphism in patients suffering from idiopathic azoospermia or severe oligozoospermia and in a control group of Romanian healthy men, in order to investigate the possible association of this polymorphism and male infertility. Using the polymerase chain reaction restriction fragment length polymorphism technique (PCR-RFLP), the genotype distribution was investigated in both patients and controls. The genotype frequencies are: 12,7% m/m; 58,7% w/m; 28,6% w/w in the studied group compared to the control group: 13,2% m/m; 37,7% w/m; 49,1% w/w. Statistical analysis showed there is no association between the BHMT G742A polymorphism and male infertility (p0.056). Until this date there are several known polymorphisms of genes encoding enzymes of the folate pathway which are associated with a very broad pathology: vascular disease, neural tube birth defects and infertility. Increasing the size of the two studied groups as well as studying other genes of the folate metabolic pathway can contribute to a better understanding of the molecular basis of male infertility. Genetic diagnoses techniques, by the information that they offer concerning the molecular profile of each patient can contribute to better diagnoses, treatment and prevention of diseases.

Key words: betaine, homocysteine, folate, methylation, gene

58.HYPERTENSION RELATED RISK FACTORS

MARIOARA NICOLETA FILIMON[1], SMARANDA RODICA GOŢIA[2], LAURA GOŢIA[2], RODICA TOROK-OANCE[1]

[1]Department of Biology, West University Timisoara

[2]Department of Physiology, University of Medicine and Pharmacy Victor Babes Timisoara, Romania

Aim: Arterial hypertension correlation with exogenous risk factors (coffee, alcohol, cigarette, stresfull work conditions, polluted working environment) and endogenous risk factors (dyslipidemia, obesity). Methods and materials. The study has been made on 150 people, from urban and rural area, 45 to 57 years old, 80 men and 70 women. There were determined high blood pressure (systolic blood pressure) and lower blood pressure (diastolic blood pressure). Arterial hypertension has been established when the systolic blood pressure reached 140 mmHg and the diastolic blood pressure was more than 90 mmHg. Arterial hypertension related risk factors were taken into consideration. Results. Among the investigated cases, there were 130 people who were still active (86.66%) and 20 people who were already retired (13.66%). Investigated people admitted that they drink coffee (28%), drink alcohol and smoke (30% from the investigated men). Dyslipidemia was found in 40 women and 30 men and they were between 51 and 57 years old. 15 women and 25 men were suffering from obesity, at the same age as the ones who had dyslipidemia. Obesity and dyslipidemia were correlated with the arterial hypertension. Knowing the risk factors allows us to establish a prognosis concerning the evolution of hypertension and also to apply the hypertension prophylaxis. Conclusions. Risk factors (alcohol, coffee, cigarette, stress) contributed to the birth and maintainance of arterial hypertension. In aged people often can be accompanied by obesity and dyslipidemia, which means a risk factor for the arterial hypertension.

Keywords: arterial hypertension, risk factors, dyslipidemia, obesity

59. THE MECHANISMS INVOLVED IN PHOTODYNAMIC THERAPY USING TETRAPYRROLIC MACROCYCLES

ADRIANA G. FILIP[1], SIMONA CLICHICI[1], ADRIANA MURESAN[1], DOINA DAICOVICIU[1], RODICA M. ION[2], CORINA TATOMIR[3], LILIANA ROGOJAN[4], DECEA NICOLETA[1], DIANA OLTEANU[1]

[1]Department of Physiology, "Iuliu Hatieganu" University of Medicine and Pharmacy Cluj-Napoca, Romania

[2]National R&D Institute of Chemistry and Petrochemistry - ICECHIM, Bucharest, Romania

[3]Oncologic Institute „Prof. Dr. I. Chiricuta" Cluj-Napoca, Romania

[4]Department of Morphopathology, District Hospital Cluj Napoca

Photodynamic therapy (PDT) mediated oxidative stress causes direct tumor cell damage as well as micro vascular injury. In addition, tumor eradication arises from an acute inflammatory response featured by an increased level of cytokines in the tumor. To improve this treatment new photosensitizers are being synthesized and tested. Our study evaluates the effects of PDT with 5,10,15,20-tetrakis-(methoxyphenyl)-porphyrins (TMPP) and their zinc compounds (ZnTMPP) on the tumor levels of IL4, TNFα, MDA and glutation, on the activity of caspase-3 and MMP in

Wistar rats bearing carcinosarcoma 256. Rats were randomly divided into five groups: group 1 - no treatment, group 2 - only irradiated, group 3 – 5-aminolevulinic acid (5-ALA) 250 mg/kg b.w.; group 4 - TMPP 10mg/kg b.w, group 5 - ZnTMPP 10mg/kg b.w. The tumors were irradiated for 15 minutes with LASER light (100J/cm2, 10kHz, 685nm) 24h after drug administration. Our results show an important increase in the levels of malondialdehyde ($p<0,01$) together with the activation of MMP 2 ($p<0,05$), there is a significant correlation between these two parameters. The activity of caspase-3 is increased in the tumor tissue, mainly when using TMPP for PDT, in correlation with increased lipid peroxidation. The level of TNFα in the tumor is increased after PDT with ZnTMPP. We may conclude that the effects of PDT with these two porphyrins are mediated by cellular membrane damage and the induction of apoptosis and also by the activation of the innate immune system.

Key words: photodynamic therapy, oxidative stress, apoptosis, macrocycles tetrapyrrolic and cytokines

60.NEW TRENDS IN MODERN PATHOPHYSIOLOGY

AMELIA GAMAN[1], C. TAISESCU[1], D. ALEXANDRU[1], R.TANASIE[2]

[1]UMF Craiova
[2]University of Craiova

Pathophysiology is an integrative discipline that prepares the foundation for the scientific notions fundamental theoretical work in hospital practice. We developed and won a grant from European funds, whose general objective is to develop human resource by improving the quality of professional training of students and teachers involved in the educational process in Pathophysiology in accordance with new European requirements. The specific objectives aiming at restructuring and modernization program of study in Pathophysiology by creating and implementing software for practical work and the assessment of students in educational activities to improve transparency and evaluation. Using these modern methods of teaching / learning / assessment of students using both the MG III, participants in the project, representing the target group, and students in the next years, beneficiaries of the practical modern Pathophysiology made in the current project. The project contributes to achieving specific priority axis 1-Education and training in supporting economic growth and development of knowledge society, major field of intervention. 1.2. Quality in Higher Education in POSDRU 2007-2013 and development of human capital, increasing competitiveness and providing greater opportunities for future participation in the labor market a modern, flexible by promoting innovation and expansion activities using ICT in teaching / learning / assessment in higher education, skills development cross promoting equal opportunities, gender and discrimination. The project is in line with the European Employment Strategy, the Integrated Guidelines for Growth and Employment, National Program of Reforms, the National Development Plan 2007-2013, National Strategic Reference Framework 2007-2013.

Keywords: pathophysiology, software, teaching, learning, assessment

61.INTERRELATION OF GLUTATHIONE REDUCTASE AND GLUCOSE-6-PHOSPHATE DEHYDROGENASE ACTIVITY IN PATIENTS WITH MAMMARY TUMORS

GAVRILIUC LUDMILA, GODOROJA NADEJDA, BOTNARIUC NATALIA, VARTICIAN ANA, LISII LEONID

Department of Biochemistry and Clinical Biochemistry, USMF "N.Testemitanu", Oncological Institute, Chisinau, Moldova

Introduction. In patients with mammary tumors the processes of peroxide oxidation of lipids are increased and metabolism disturbed. The enzymic redox-system of glutathione is one of the main pathway of antioxidative system defense in the human organism.

Purpose. Investigation of the glutathione reductase (GR), glucose-6-phosphate dehydrogenase (G6PDH) activity and glutathione reduce (GSH) content in the blood plasma, leucocytes and erythrocytes in the patients with dyshormonal hyperplasiae (DH) and mammary cancer (MC). Material and methods. Leucocytes were separated from blood using Boyum A. method (2001). Content of GSH and activity of enzymes have been determine in 27 patients (17-DH; 10-MC) with SP methods (Humalyzer 2000) as was described (Gavriliuc L., 2008). The control group included 20 adult healthy. Results. The activity of GR and G6PDH and content of GSH were significantly decreased in the blood of the BC patients' in comparison with the DH patients'. The results of Spearmen correlative analysis showed, that between GR and G6PDH in plasma ($r=+0.648$; $p<0.025$), leucocytes ($r=+0.636$; $p<0.025$) and erythrocytes ($r=+0.650$; $p<0.025$) in the BC patients' was found a functional interrelation. In the DH patients' an interrelation was found in leucocytes ($r=+0.578$; $p<0.01$) and erythrocytes ($r=+0.685$; $p=0.025$) only.

62.PREVALENCE OF METABOLIC SYNDROME AND ITS IDENTIFICATION CRITERIA BY SEX AT ELDERLY

ADRIANA GHERBON, LAVINIA NOVEANU, CODRUȚ ROMAN, GEORGETA MIHALAŞ

Department of Physiology, UMF „V. Babeş" Timişoara

Introduction: metabolic syndrome contains a group of disorders which determinate a higher incidence of cardiovascular diseases. Objective: study of metabolic syndrome prevalence at elderly Research design and methods: from 438 elderly (267 female and 171 male), 191 (43.6%) (129 female and 62 male) had metabolic syndrome. The criteria used for identification of metabolic syndrome were: abdominal circumference (above 80 cm at girls and above 94 cm at boys), glucose concentration above 100 mg%, HDLc concentration under 40 mg% at boys and under 50 mg% at girls, blood pressure above 130/85 mmHg, triglyceride concentration above 150 mg%. We evaluated: Lipid profile (total cholesterol, triglyceride, HDL cholesterol, LDL cholesterol); Systolic and diastolic blood pressure; Fasting glycemia; Abdominal circumference and body mass index (BMI). Results: We noticed a prevalence of metabolic syndrome at women (48.31% vs. 36.25%, $p<0,001$, X26.16). From the criteria used for definition of metabolic syndrome, more frequent were abdominal circumference (100%) (67.53%F vs. 32.46%M, $p<0,001$, X2G.01), blood pressure levels (79.05%) (70.86%F vs. 29.13%M,

p<0,001, X2R.57), HDLc concentration (70.15%) (73.88%F vs. 26.11%M, p<0,001, X2a.13), glucose concentration above 100 mg% (41.88%) (67.5% F vs. 32.5% M, p<0,001, X2 .6) and triglyceride concentration (41.36%) (70.88%F vs. 29.11%M, p<0,001, X2'.57). Conclusions: at elderly metabolic syndrome is more frequent at women, presence of metabolic syndrome shows a higher risk of cardiovascular disease.

63.PREVALENCE OF HYPERLIPOPROTEINEMIA AT ELDERLY

ADRIANA GHERBON, LAVINIA NOVEANU,CODRUȚ ROMAN, GEORGETA MIHALAS

Department of Physiology – UMF „V. Babeş" Timişoara

Introduction: hyperlipoproteinemias are frequently in general population. Hyperlipoproteinemias types are: hypertriglyceridemia, hypercholesterolemia, mixed hyperlipoproteinemia and hypertriglyceridemia. Objective: study of hyperlipoproteinemia prevalence at elderly. Research design and methods: from 438 elderly (267 female and 171 male), 189 (43.15%) (131 female and 58 male) had hyperlipoproteinemia. We evaluated: Lipid profile (total cholesterol, triglyceride, HDL cholesterol, LDL cholesterol); Systolic and diastolic blood pressure; Fasting glycemia; Abdominal circumference and body mass index (BMI). Results: We noticed a prevalence of hyperlipoproteinemia (TC > 200mg%, HDLc < 50 mg% at female and < 40 mg% at male, TG > 150 mg%) at women (49.06% F vs. 33.91% M, p0,0017, X29.75). In function of hyperlipoproteinemias type, we had hypercholesterolemia in 69,84% (n 2) cases (74,24% F vs. 25,76% M, p<0.001, X2b,06), follow by mixed hyperlipoproteinemia in 18% (n4) cases (64,7% F vs. 35,3% M, p0,01, X25,88) and hypertriglyceridemia in 12,16% (n#) cases (47,82% F vs. 52,18% M, p0,76, X20,09). Conclusions: at elderly hyperlipoproteinemia is more frequent at women; more fervent was hypercholesterolemia, which represent a major factor for aterosclerotic cardiovascular disease.

64.FEVER IN CARDIAC DISEASES

GHERTA LEONID, MANU ROXANA ELENA, MARGINEAN CRISTINA

University of Medicine and Pharmacy of Craiova

Fever (also known as pyrexia, from the greek pyretos meaning fire, or a febrile response, from the latin word febris meaning fever, and archaically known as ague) is a frequent medical sign that describes an increase in internal body temperature to levels above normal. The temperature of the body is ultimately maintained in the hypothalamus. A triggering agent of the fever, called pyrogenin, causes the release of prostaglandin E2, that afects the hypothalamus, which generates a systemic response back to the rest of the body, causing heat-creating effects to match a new temperature level. Pyrogen substances can be either endogenous or exogenous to the body. Any febrile syndrome in a patient with a cardiac disease creates problems in diagnosys and evolution. Situations in which fever may appear in patients with a cardiac disease are: Acute Articulary Reumatism, septicemy, infectious diseases, acute pericardites, heart stroke, bacterian subacute endocardites. Any febrile syndrome that appears at a patient with a valvulopaty can suggest the posibility of an existing subacute endocardites. Unlike subacute endocardites, in which fever exists in over 95% of the cases, at a patient with organic cardiac bruits, in acute endocardites, febrile syndrome appears on a healthy heart, which creates seriously diagnosis problems. Fever can be the major manifestation of a miocardites or heart stroke. Fever in cardiac diseases is a very usefull medical sign because it can make the differential diagnosis between different heart diseases, along other symptomes

65.TAURINE EFFECT ON SELECTIVE ATTENTION IN ELDERLY

M. GIURGIU, M. GHITA, L. ZAGREAN

Department of Physiology, U.M.F. "Carol Davila" Bucharest

Aging is a process that associates a decline in cognitive function, involving frontal lobe, especially prefrontal cortex. Also, selective attention and its underlying mechanisms (excitation, inhibition and habituation) are impaired in normal aging. The Stroop test has been traditionally used as a measure of cognitive inhibition. Taurine is a well known neuroprotector, being involved widely in central nervous system regulation. The aim of this study is to investigate if taurine is involved in the inhibition process. Materials and methods: The Stroop test was performed to a group of 10 patients, over the age of 65, without neurological and ophthalmological history. At the beginning of the study, each patient was evaluated with psycho-geriatric assessment scale. The patients followed a 3 month taurine treatment protocol. The recordings were performed before taurine administration, and after a treatment of 1 and 3 month. We evaluated the reaction time and error type. Stroop test and answer recordings were made with Superlab 4.0 software. The results showed a beneficial effect of taurine over the recorded parameters, versus a control group that received placebo. Ongoing studies are done to explore the duration of taurine effect

Keywords: aging, taurine, stroop, reaction time

66.BONE REMODELLING IN POSTMENOPAUSAL OSTEOPOROSIS.

SMARANDA RODICA GOTIA[1], CAMELIA GURBAN[2], FELICIA SFRIJAN[2], LAURA GOTIA[1], M. COJOCARU[3].

[1]Victor Babes" University of Medicine and Pharmacy, Physiology Department, Timisoara, Romania
[2]Victor Babes" University of Medicine and Pharmacy, Biochemistry Department, Timisoara, Romania
[3]Titu Maiorescu'' University of Medicine and Pharmacy, Physiology Department, Bucharest, Romania

The bone is permanently liable to a process of bone remodelling, which has a cyclic character. The resorpted bone induced by osteoclasts is equal to the formed bone, through osteoblastic action. The differentiation of osteoclasts is promoted by parathormon, calcitriol, thyroid hormones and inflammatory cytokines (interleukin-1 and 6, tumor necrosis factor). In the presence of the acid environment, hidroxiapatite crystals from extracellular womb will be rendering soluble with calcium and phosphates ions released in blood torrent. In osteoporosis bone resorption begin gradual to outrun new bone formation rhythm. At the beginning takes place a process of focal bone decalcification realised by increased osteoclasts activity as a result of ATP-pomp activation with H+ protons

hyper secretion forming that way an adjacent acid medium which will make soluble hidroxiapatite microcrystals. "The gold standard" in osteoporosis evaluation is represented by dual energy X- ray absorbtiometry method, which measures spine and/on hip bone density levels. In postmenopausal osteoporosis serum levels of the bone making markers (osteoprotegerin, bone alkaline phosphatase, osteocalcin, estrogens) are significantly reduced comparing the patients without osteoporosis, and bone resorption markers levels (receptor activator of nuclear factor-kappa B) are significantly increased, comparing the patients without osteoporosis. The findings suggest that these sensitive bone markers may be used to monitor treatment efficacy, especially within the first 6-12 months of initiating therapy, at a time when bone mineral density changes are still too insignificant. The serum levels of bone markers may be useful for osteoporosis "screening" in postmenopausal women.

Key words: bone remodeling, osteoporosis.

67.ECOPHYSIOLOGY OF GASTROINTESTINAL TRACT. REVIEW

GOTIA SMARANDA RODICA[1], VERDES DOINA[2], GOTIA SMARANDA LAURA[1], GURBAN CAMELIA[3], FILIMON NICOLETA[4]

[1]Department of Physiology, University of Medicine and Pharmacy Victor Babes
[2]Department of Molecular and Cell Biology, University of Medicine and Pharmacy Victor Babes
[3]Department of Biochemistry, University of Medicine and Pharmacy Victor Babes
[4]Department of Physiology, West University, Timisoara, Romania

The aim: to discuss the main aspects of environment changes impact on gastrointestinal tract. Ecophysiology of gastrointestinal tract studies interactions between individual digestive system and their environment, also, contains interaction between diet, microflora and the resistance to intestinal pathogens, food borne infections, probiotics interaction with intestinal flora and local immune system. Gastrointestinal tract represents a barrier between human body and external environment. Therefore physical, chemical, biological ecosystems variation induces structural and functional modifications of human digestive system. The main environmental factors which assault digestive system are food, water, parasites, microorganisms. The exponentially growing human population requires increasing supplies of food and fiber. Developments in biotechnology, food technology, and gene technology lead to increased possibilities for novel and functional food development. Physiological response to functional foods ingestion may involve the digestive function, composition and metabolic activities of intestinal flora, and the immune system. Plants and animals genetic modified used as food for humans, stress can influence our body development. The impact results can be: intestinal motility impairement, decrease of nutrients and vitamins absorbtion, proteic malnutrition. Food aditives can interfear with nutrients, iron, and vitamin absorbtion followed by specific deficiency. Global climate change may affect health by modification of natural ecosystems and agriculture which induces effects of population displacement, diseases induced by vector, rodent, water, and food (diarrhoeal episodes, malnutrition' risk). Temperature and relative humidity have a direct influence on the bacterial replication rate, and on enteroviruses survival in the environment.

Key words: environment, digestive system.

68.GLYCAEMIA VARIATIONS IN SALIVARY GLANDS TUMORS

GOTIA SMARANDA LAURA[1], GOTIA SMARANDA RODICA[1], GURBAN CAMELIA[2]

[1]Department of Physiology, University of Medicine and Pharmacy Victor Babes, Timisoara, Romania
[2]Department of Biochemistry, University of Medicine and Pharmacy Victor Babes, Timisoara, Romania

It has been recently revealed that type 2 diabetes is a risk factor for tumors proliferation at different sites. The aim: the correlation of glycaemia values with salivary glands tumors. Material: There were selected 87 patients with salivary gland tumors admitted in Maxillo-Facial Surgery Department from Timisoara, for a period of two years. The study was based by medical records, biological parameters and histopathological results. Was noted tobacco use, as risk factor. Results: The range of age of patients was between 45 to 85 years. The incidence of salivary tumors was higher in men (56.32%) and urban area (70.11%). Their tumors were predominantly benign, 76.93% in non-smoking (52 cases), and 65.38% in smokers patients (26 cases). High levels of fasting blood glucose presented smokers patients with salivary gland cancer (118.8 ± 52.89 mg/dl) compared with non-smokers (97.6 ± 11.28 mg/dl). There was a positive correlation of glycaemia values and age in salivary benign and malignant tumors, both in non-smokers (r 0.506), and smokers (r 0.380) patients. The results of the study suggest that high levels of glycaemia can be induced by the decrease of insulin-like growth factor produced in normal salivary glands. Patients were advised to more investigate their glycaemic metabolism in order to reveal a possible diabetes mellitus. Conclusion: Malignant salivary gland tumors were accompanied with high levels of glycaemia. These findings permit a novel hypothesis concerning the association between hiperglycaemia and salivary gland tumors.

Keywords: salivary gland, tumor, glycemia.

69.LOCAL BLOCKADE OF INTRAPULMONARY RENIN ANGIOTENSIN SYSTEM EFFECTS ON PULMONARY ARTERY REACTIVITY

GURZU BOGDAN[1], PETRESCU BOGDAN CRISTIAN[2], COJOCARU ELENA[1], DUMITRIU IRINA LUCIANA[1], VATA LUMINITA GINA[1], MARIA DINCA[1], MIHAI CAMELIA ANA[1], COSTULEANU MARCEL[2], PETRESCU GHEORGHE[2]

[1]Department of Physiology, School of Medicine, "Gr T Popa" University of Medicine and Pharmacy Iasi, Romania
[2]Department of General Pathology, School of Dentistry "Gr T Popa" University of Medicine and Pharmacy Iasi, Romania

Our previous data confirmed the activation of local renin angiotensin system (RAS) during the progression of lung allergic diseases. This study examined to what extent the local blockade intrapulmonary RAS could modified the pulmonary artery reactivity. Pulmonary artery (PA) rings obtained from normal rats (NR), ovalbumin sensitized rats (OSR) and ovalbumin sensitized rats treated with losartan (an angiotensin receptor AT1 blocker) (OVAL) were mounted between hooks in a wire myograph and changes in rings tension were recorded. Losartan was

daily administrated by nebulization (15 minutes, 1%) in the last week of sensitization protocol. Phenylephrine (10 μM, Phe) induced contraction and subsequent acetylcholine induced relaxation (ACh, 10 nM – 10 μM cumulative doses) were used for estimation of PA reactivity. The Phe – induced contractions were 1.2 times powerfully on PA ring from OSR as compared with NR. The ACh induced relaxation of Phe – preconstricted PA rings was significantly lower on OSR (Emax: 59.82±5.31%) than on NR (Emax: 75.84±3.88%). On OSRL, the Phe contractile effects were not significantly different than OSR, but ACh – induced relaxation was significantly improved (Emax: 64.43±3.41%, $p<0.05$ as compared with OSR). These results suggested that inhalatory administration of an angiotensin receptor AT1 blocker could have a benefic effect on preventing the modification of pulmonary vascular reactivity induced by sensitization and challenge.

Keywords: pulmonary artery, losartan, ovalbumin, rats.

70.THE STUDY OF CEREBRAL DOPPLER AND CARDIO-VASCULAR PARAMETERS TO A LOT OF CONTRACEPTIVE FEMALE USERS.

GUSTI SIMONA[1], ILINCA IONELA AURELIA[2], GUSTI ALICE[3]

[1]Department of Physiology, Faculty of Medicine, University of Medicine and Pharmacy, Craiova
[2]Department of Planning Familial, University, Piteşti
[3]Department of Physiology, faculty of Physical Education and Sport, University of Craiova

We have investigated clinical and paraclinical to a lot of 162 contraceptive users (contraceptives of II and III generation and injectable), 17-30 yeara old. We have determined electrocardiogram, electroencephalogram, systolic and diastolic blood pressure. We have appreciated cerebral irrigation with Doppler method , using a Logidop 4, Krantzbuhler and a sonde of 4 MHz, connected to a PC. Systolic and diastolic blood pressure have been mentained in normal limits, up to superior limit of normal to all the studied lots, prevalent to injectable contraceptive users lot and especially after a long utilization period. The Doppler exploration emphasized a discret reduction of cerebral irrigation (decreaseing of systolic speed with 8%) and an increase of cerebral circulation resistance (increase of resistance index with 11%), parameters best correlated (r=0,88) with the value of systolic and diastolic blood pressure. Electrocardiogram and electroencephalogram did not record pathological modifications. In conclusion, the short time using of contraceptives do not modify the cardio-vascular parameters and cerebral irrigation; the long time using of contraceptives could determine an increase of systolic and diastolic blood pressure and an increase of cerebral resistance, particulary to users of injectable contraceptives.

Key words: contraceptive female users; systolic and diastolic blood pressure; Doppler cerebral vascular exploration

71.PSEUDOMIXOMA PERITONEI- RARE MUCINOUS TUMOR OF THE PERITONEUM

ADRIANA HABOR[1], V. HABOR[2], ANCA SIN[3]

[1]Discipline of Physiology, University of Medicine and Pharmacy Targu-Mures
[2]1st Surgical Clinic, Clinic Hospital Targu-Mures
[3]Discipline of Cellular and Molecular Biology University of Medicine and Pharmacy Targu-Mures

We present the case of a 48-age old female, who was admitted to the Ist Medical Clinic from Targu-Mures with the diagnosis: chronic bronchitis, pulmonary emphysema, chronic cor pulmonale. The patient was immediately hospitalized in order to decompensate the pulmonary disease. A physical examination will often reveal dyspnea and wheezing, face and extremities cyanosis, swelling jugular, diffuse hipersonority, prolonged expiration, disseminated sibilant rales, increasing abdominal girth with flank dullness at percussion, flank fixed dullness, diffuse sensitiveness at palpation, firm hepatomegaly enlargement of the liver (about 17 cm the right lobe), high consistency, smooth surface, with rounded inferior border, gaiter edema. Ordinary investigation are to be effectuated and the treatment concerning the decompensation of the chronic pulmonary disease is initiated (oxygen therapy, anticoagulants, diuretics, nitrates, antibiotics, digitalis, bronchodilators, corticotherapy). A week after being hospitalized the patient had developed colon occlusion. Abdominal ultrasonography revealed ascitic fluid in peritoneal cavity, between the intestinal loops, ascites with echogenic intraperitoneal masses, some of them being attached to the visceral peritoneum. The laparatomy revealed a mucous tumor mass which was pulled out for detachement the intestinal loops. The histopatological investigation had pointed out a fibrin network inside the loops where are to be found the gelatinous material, pseodomucous, some glandular fragments by a benign simple columnar epithelium, ways specific to the pseudomixoma peritonei. We had presented this case due to the rareness of the tumor and the imprevisible evolution (starting with the spontaneous healing concerning the cases which are advancing gradually and lead to repeteated interventions).

Keywords- pseudomixoma peritonei, mucous tumor, fibrin.

72.CONTROLLED OXIDATIVE STRESS SYSTEM USED TO INDUCE ENDOTHELIAL DYSFUNCTION IN ISOLATED ARTERIES

HOGAS MM, STOICA B, SERBAN IL, NECHIFOR M, SERBAN DN

"Grigore T. Popa" University of Medicine and Pharmacy, Iasi, Romania

We designed an original system (patent subject) for controlled generation of oxygen free radicals and tested it for applicability in evaluating the effects of oxidative stress upon endothelium-dependent relaxation. We used a quinone, that turns into semi-quinone radical when irradiated in UV. The latter is able to transform molecular oxygen into singlet oxygen, which then forms reactive oxygen species, predominantly superoxide. The intensity and duration of UV irradiation of the samples were precisely controlled. We used lucigenin amplified chemiluminescence to determine optimal quinone concentration (0.5 mM) and optimal irradiation duration. Experiments were done in triplicate, either without irradiation of the quinone solution (control) or with irradiation for three different durations. Chemiluminescence revealed a linear relation between free radical generation and irradiation duration. In separate experiments we applied the same irradiation protocol to 5 ml batches of Krebs-Henseleit solution (containing 0.5 mM quinone), which were immediately used to incubate rings of rat mesenteric arcade and first order branches, mounted and equilibrated in the chamber of

a wire myograph. Using this procedure of controlled oxidative stress we induced an endothelial dysfunction, without affecting the contractile responses, elicited by phenylephrine and high extracellular potassium, or the endothelium-independent relaxation by nifedipine. Using inhibition of nitric oxide synthase and cyclooxygenase we showed that this reduction of endothelium-dependent relaxation is due to reduced NO bioavailability, which is partially compesated by an amplification of the EDHF component, as also shown in other studies regarding the effects of oxidative stress upon endothelium-dependent relaxation. Supported by Romanian Grant CNCSIS-A1222/2007-2008.

Key words: endothelium, resistance arteries, quinone, superoxide.

73.INCREASED ARTERIAL STIFFNESS, ENDOTHELIAL DYSFUNCTION AND CARDIAC SIZE ARE STRONGLY RELATED TO BIOIMPEDANCE-DERIVED PARAMETERS IN MAINTENANCE HEMODIALYSIS PATIENTS

HOGAS SM, VORONEANU L, GUSBETH-TATOMIR P, SERBAN DN, HOGAS MM, COVIC AC

"Grigore T. Popa" University of Medicine and Pharmacy, Iasi, Romania

Cardiovascular morbidity and mortality is enhanced in chronic kidney disease vs non-renal population, partly due to increased arterial stiffness. In chronic hemodialysis (HD) patients we investigated the relation between fluid status, arterial stiffness and endothelial dysfunction. We included 63 stable HD patients (age 54.3±13.1, 54% males), without overt CV disease. Pulse wave velocity (PWV) and augmentation index (AIx) were evaluated by applanation tonometry before the mid-week HD sessions. Pre-HD bioimpedance parameters were measured to determine total body water, extra- and intra-cellular water. A phase angle < 6o was previously considered reflecting extracellular overhydration. Fluid status was evaluated based on inferior vena cava (IVC) diameter. Endothelium-dependent (ED) and -independent (EID) vascular reactivity were assessed by changes in AIx following sublingual nitroglycerin (NTG) and inhaled salbutamol (SAL). PWV directly correlated with patients' age and dialysis vintage (r0.51 vs. r0.71; P < 0.05). On multiple regression analysis, age was the most important predictor of PWV; the model including age, dialysis duration and phase angle predicted 26% of PWV variance (P0.001). Patients with a phase angle <6°, were significanly overhydrated (larger IVC, increased ECW and lower ICW), had stiffer arteries and greater left ventricle mass, compared to those with phase angle >6o. Both EID and ED responses were more abnormal in patients with a phase angle < 6o. In HD volume overload is an important contributor to increased arterial stiffness, abnormal vasodilation and LV hipertrophy. Bioimpedance-derived parameters are excellent discriminators for a more abnormal cardiac and vascular profile. Supported by Romanian Grant PN2-IDEI-PCE/ID-1156/2007-2010.

Keywords: arterial stiffness; hemodialysis, endothelial dysfunction, bioimpedance, hydration status.

74.THE EVALUATION OF ANTHROPOMETRIC AND PHYSIOMETRIC EVOLUTION TO A GROUP OF STUDENTS AND ITS CONNECTION TO THE EXISTENCE OF CERTAIN RISK BEHAVIOUR FOR THEIR HEALTH CONDITION

ADRIANA HUREZEANU, PETRICA BADEA, VALERIU NEŞTIANU

University of Medicine and Pharmacy of Craiova

The present study aims at identifying the presence and especially the spreading of unhealthy behaviour to children and young people (unbalanced nutrition, alcohol consumption, smoking) and possible connections to their physical development. As a consequence, we selected a group of 160 students (80 secondary school students and 80 high school students without taking into consideration their gender). We measured a series of anthropometric and physiometric parameters and they were asked to fill in some forms. The obtained results emphasized that long time smokers who frequently drink alcohol have most cranial and trunk parameters as well as physiometrical ones higher than normal. They have no extracurricular activities and lead a sedentary life. Thus, we concluded that, in the case the group of students selected, the subjects that presented higher values of anthropometric and physiometric parameters had a strong tendency toward high risk behaviour for their health condition.

Key words: student, development, health, behaviour.

75.CONSIDERATIONS REGARDING THE INITIAL THERAPY OF URINARY INFECTIONS

HUREZEANU DAN, DRAGONU LIVIA, ŞTEFAN ELENA

University of Medicine and Pharmacy of Craiova

There has been recently remarked an increased percent of urinary infections from one year to another. The main reasons are related to the beginning of the therapy before actually identifying the pathogen agents or the causes that may exist in the pre-existent pathology of the patient. The present study aims at evaluating the antimicrobial activity of some antibiotics that are frequently used in the treatment of urinary infections to the patients from the Clinic of Infectious Diseases, Craiova. As a consequence, 628 microbial strains were isolated,493 of which were E.Coli ones (76,11%), 56 were Enterobacter (8,20%) , positive Gram cocci (staphylococci, enterococci)- 8,20 % and other negative Gram cocci(BGN)-9,12 %. 78,91 % (p0,004) of them, the nalidixic acid – 72,92 % (p9,2x10-4) as well as cotrimoxizole 51,63% (p2,1x 10-5) were sensitive to fluorochinolone. The treatment with B-lactam antibiotics, ceftriaxone (89, 12%) and imipenem (90, 14%) was also beneficial because of their high rate of activity, presenting only small differences between them (p0,387) .Ceftriaxone was a lot more active – OR0,22 0,13,75) than t-ticarcillin/clavulanate (60,89%). Amicacin (94, 43%) was more efficient than Gentamicin (72, 11&): OR0,19(o,12;o,30). The colistin still remains a useful solution having an efficiency of -90, 87%. For infections that need parenteral therapy, colistin, amicacin, cephalosporin antibiotics of 3-4 generation as well as carbapenemes are the most active ones.

Key words: urinary infection, antibiotic, efficiency.

76.ASSOCIATION BETWEEN HOMOCYSTEINE LEVELS AND OTHER CARDIOVASCULAR FACTORS IN PATIENTS WITH METABOLIC SYNDROME

LOREDANA HURJUI, I. HURJUI, IONELA LACRAMIOARA SERBAN, VERONICA LUCA, NASTASIA GHEORGHITA, D.N. SERBAN

UMF "Gr. T. Popa", Iasi

77.THE IMPORTANCE OF LOW MOLECULAR WEIGHT HEPARINS ADMINISTRATED IN PATIENTS WHO UNDERWENT ORTHOPEDIC SURGERY

ILEANA ION, N. CEAMITRU, CECILIA ADUMITRESI, NINELA RADULESCU, CRISTINA FARCAS, CARMEN CIUFU, LOREDANA HANZU

Physiology and Pathophysiology Department, Faculty of Medicine,"Ovidius" University, Constanta

The objective of our study is to emphasize the advantage of using low molecular anticoagulant treatment in patients with limb fractures who underwent orthopedic surgery. In this study, were examined patients with fractured hips, hospitalized in the Orthopedic surgery department of the County Hospital – Constanta. During the whole period of hospitalization, have been administrated to the patients, subcutaneously, once daily, low molecular weight heparin's (LMWH). The blood tests were performed before surgery, immediately after it and 7 days latter. From plasma obtained after blood centrifugation, collected on sodium citrate, were determined Fibrinogen (FIB), Activated Partial Prothrombin Time (APTT), Prothrombin Time (PT), and Thrombin Time (TT). From the whole blood collected on EDTA, thrombocyte number was counted. The obtained data were statistically analyzed and values of $P < 0.05$ were considered significant.

There was observed the increase of thrombocytes number and fibrinogen values in patients with hips fractures as a reactive response to the inflammation and surgical intervention. Also, under LMWH treatment APTT was maintained in the normal range and prolongation of PT and TT were noticed. Because LMWH administered subcutaneously (SC) once daily are at least as effective and safe as low dose unfactionated heparin (UFH) administered SC two or three times daily, LMWH has become the anticoagulant of choice for the prevention of venous thrombosis following major orthopedic surgery.

Key Words: low molecular weight anticoagulants, hips fractures, venous thrombosis

78.THE WILSON DISEASE IN FAMILY MEMBERS

IOVANESCU DORINA[1], SFREDEL VERONICA[2], AMZOLINI M.[3],AMZOLINI ANCA[2]

[1]Emergency Hospital Craiova, Department of Neurology
[2]University of Medicine and Pharmacy Craiova
[3]ST. Pantelimon Hospital Bucharest

Wilson disease is a genetic disorder characterized by an excess of copper in the body, caused by a deficit in the synthesis of hepatic ceruloplasmin, followed by the deposition of this metal in the brain, liver, eyes, kidneys. Objective: Outlining the main neurological aspects of the Wilson disease in 2 sibling patients. Material and methods: In the case of the siblings, they have undergone several medical exams: MRI, EEG, liver biopsy, neurologic, clinical, biochemical and eye exams. The disease developed in the male patient with psychological disorders at about the age of nine, followed by the extrapyramidal syndrome and subsequently epilepsy. His sister started to show at the age of 16 the specific extrapyramidal signs, followed by severe psychical distress with self-injuring behavior. The neurologic examination has showed in both patients neurologic features leading to extrapyramidal manifestations, tonic spasms, resting, postural, or kinetic tremors, psychical retardation and depressive symptoms in the girl. The biochemical analyses showed low levels of ceruloplasmin in the case of both brothers, plasmatic copper under the normal level and urinary copper over the normal limits due to the treatment with chelating agents. The MRI exam found specific images of cerebral destruction. Results: We have found the following characteristics:1. Development and evolution as a neurological disease; 2. The lack of liver disease; 3. The absence of the Kayser-Fleischer rings; 4. No renal involvement; 5. The EEG symptoms are more evident in the female patient. Conclusions: The reported cases distinguish themselves through predominant neuropsychiatric symptoms.

Keywords: Wilson disease, neuropsychiatric symptoms.

79.THE EFFECT OF LIPOIC ACID ON MATERNAL HYPOXIA DAMAGE TO THE FETUS VISUAL BRAIN – EXPERIMENTAL STUDY

JOANTA ADELA ELENA[1], MICLAUS VIOREL[4], CZIKER ROXANA ELENA[1], SECELEANU ANDREEA[2], HERMAN ANDREEA[3], MOCANU TEODORA[1], DECEA NICOLETA[1], MOLDOVAN REMUS[1]

[1]Physiology Department, University of Medicine and Pharmacy "Iuliu Hatieganu", Cluj-Napoca
[2]Anatomy and Embryology Department, University of Medicine and Pharmacy "Iuliu Hatieganu", Cluj-Napoca
[3]student, Faculty of Medicine, University of Medicine and Pharmacy "Iuliu Hatieganu", Cluj-Napoca
[4]Histology Department, University of Agricultural Sciences and Veterinary Medicine, Cluj-Napoca

The effect of lipoic acid on maternal hypoxia damage to the fetus brain and retina was investigated . Pregnant Wistar rats were equally divided into four groups: control (C), the group treated with lipoic acid (L), the group exposed to hypoxia in barometric chamber (H) during the last week of gestation and the group exposed to hypobaric hypoxia and treated with lipoic acid (HL). Oxidative stress markers and antioxidant defense were assessed in different brain areas (occipital cortex, corpus callosum) and retina of the offspring together with the histological study of the occipital cortex. Brain and retina malondialdehyde (MDA) levels were significantly increased whilst glutathione (GSH) and thyol groups were significantly decreased in the offspring of gestates belonged to the H group compared with the C group. Lipoic acid reduced brain and retina MDA levels and increased GSH and thyol groups concentration in the offspring of gestates belonged to L and HL groups compared with their corresponding control groups. Histological study showed that intrauterine hypoxia led to neuronal damage in the offspring's occipital cortex. Lipoic acid treatment was found effective in preventing brain

and retina disorders caused by oxidative stress.

Key Words: hypoxia, occipital cortex, corpus callosum

80.THE RELATION BETWEEN ELECTROACUPUNCTURE, NITRIC OXIDE AND BLOOD PRESURE

RAMONA MOLDOVAN JURCĂU[1], IOANA JURCĂU[2], CRISTIAN BODESCU[3], DUMITRU SUPAC[4]

[1]Catedra de Fiziopatologie, UMF Cluj Napoca
[2]Spitalul Clinic de Copii, UMF Cluj Napoca
[3]Drd. Catedra de Balneologie,UMF Cluj-Napoca
[4]Drd. Catedra de Fiziologie, UMF Cluj Napoca

The relation between electroacupuncture (EA) nitric oxide (NO) and blood presure (BP) has been demonstrated by various researches. The curative mechanism (depressor effect) of (EA) on stress-induced hypertensive rats might be mediated by NO due to activation of sympathetic inhibitory system and by attenuated cardiac activities. EA changes the activity in the NO system in the brainstem of spontaneously hypertensive rats (SHR) and the site where EA is administered is of importance for this effect. EA ST 36 induces neuronal NO synthase (nNOS) expression in the gracile nucleus and medial nucleus tractus solitarius (mNTS), and enhanced nNOS-NO in the nuclei may modify central cardiovascular regulation, which contribute to hypotensive effects of acupuncture. NO plays an important role in mediating the cardiovascular responses to EA "Zusanli" (ST36) through gracile nucleus. The distributions of NOS positive nerve fibers in the ST36 area might be one of the morphological foundations of acupuncture effect of Zusanli point. L-Arginine-derived NO synthesis appears to mediate noradrenergic function on skin sympathetic nerve activation, which contributes to low resistance characteristics of acupoints and meridians. Changes of neuronal and inducible nitric oxide synthase (nNOS, iNOS) in the rostral ventrolateral medulla (RVLM) of rats and the activation of endothelial NOS and nNOS is one of the mechanisms through which ST36 EA reduces BP; this reduction works through the stomach meridian. Recent studies have demonstrated that the depressor effect of EA ST36 on hypertensive rats can be reduced by microinjection of NO blocker into ventral periaqueductal gray matter.

Key words: electroacupuncture, nitric oxide, blood pressure

81.MECHANISMS OF MUSIC THERAPY IN ANESTHESY AND SURGERY

RAMONA MOLDOVAN JURCĂU[1], IOANA JURCĂU[2], CRISTIAN BODESCU[3], DUMITRU SUPAC[4]

[1]Catedra de Fiziopatologie, UMF Cluj Napoca
[2]Spitalul Clinic de Copii, UMF Cluj Napoca
[3]Drd. Catedra de Balneologie,UMF Cluj-Napoca
[4]Drd. Catedra de Fiziologie, UMF Cluj Napoca

Music therapy is defined as "the systematic application of music by the music therapist to bring about helpful changes in the emotional or physical health" of the patient for the achievement in physical, physiological, psychological, cognitive, emotional, psycho-social and spiritual goals. The principal effects of music therapy during anesthesy and surgery are: 1. clinical effects: acting on the limbic system, it will reduce of heart rate, mean arterial blood pressure and breathing rate; 2. neurological effects: transporting the person from BETA to THETA, background instrumental can help the individual while in DELTA sleep, favorise the integration of therapeutic suggestions; 3. biological effects: hypo-metabolic response, stable hemodynamical parameters, significant reduction in the level of ACTH, cortisol, endorphin and noradrenaline, decreased postoperative recovery profiles; 4. drugs effects: reduction in perioperative and postoperative analgesic and antiemetic requirements, sparing the sedative and analgesic; 5. psychological effects: reduce pain, produce relaxation, increase the satisfaction scores overall, decrease the anxiety scores overall, influence the psychologic measures – decrease anxiety, and increase satisfaction - during women's cesarean delivery; 6. spiritual effects: increase serenity, hope and faith.

Key words: music therapy, anesthesy, surgery

82.RELATION BETWEEN SPINE STATIC AND JUNIOR FOOTBALL PLAYERS SPORTIVE PERFORMANCE

ANAMARIA KESE[1], ELENA TAINA AVRAMESCU[1,2], DENISA ENESCU-BIERU[1], MIRELA LUCIA CĂLINA[1,2], LIGIA RUS U[1,2]

[1]Faculty of Physical Education and Sport Craiova, University of Craiova, Romania
[2]Sport Polyclinic Craiova, Romania

Introduction: The spine static disorders represent very important factor that decrease the sportive performances, especially for football players. Objectives: The aim of this study was to establish a relation between spine static and junior football players' sportive performance, to compare the possible spine static disorders to the possible ones of a group of non-athletic kids (witness lot) and to emphasize the kinetic rehabilitation programme importance used to prevent and treat any spine physical deficiencies. Material and method: We study a lot of 20 junior football players and a group of 20 kids which perform sport activities only at school, both with a medium age of 12 years, which did not accuse any joint or muscular symptomatology. To examine the spine static, we used the Sammons Preston scoliometer. Results: 60% of the junior football player presented spine physical deficiencies in comparison with the 50% of the witness lot which had the same physical deficiencies. Conclusions: The diagnosed spine static disorders benefit of corrective measures that consist of kinetic rehabilitation programme, therefore, these not represent contra-indication for practising feat sports (football).

Key words: sportive performance, junior football players, spine static disorders, kinetic rehabilitation.

83.USING MOUSE ADULT CARDIOMYOCYTES IN THE STUDY OF CARDIAC PROHYPERTROPHIC SIGNALLING PATHWAYS

ANGELA M. LAZAR

Departament of Physiology I, University of Medicine and Pharmacy "Carol Davila", Bucharest, Romania

Cardiac hypertrophy, an initially adaptative remodelling of the heart to enhanced workload to maintain cardiac function is considered to be an independent risk factor for ischemic heart disease, myocardial infarction,

arrhythmias, heart failure and sudden death. There is an association between ventricular hypertrophy and increased mortality, cardiac hypertrophy itself and not elevated wall stress triggering decompensation. The aim of our project was to develop in vitro techniques to study key pathways that signal to hypertrophy in adult mouse cardiomyocytes. Although studies employing this kind of cells are more significant than other/neonatal cells, a limited number of laboratories in the world use adult mouse cardiomyocytes, due to the complexity of the method. Mouse cardiomyocytes are primary cells that do not multiply anymore and are extremely sensitive to a large variety of factors. Basic conditions of the Langendorff isolation procedure are not clearly delimited and vary a lot between laboratories for adult mouse hearts. Also, the cell number that can be isolated from a mouse heart is extremely limitative and a standardization for the stimulation conditions regarding mouse heart myocytes is difficult. We have developed an improved technique of cardiomyocyte isolation that allows an extensive study on prohypertrophic signalling pathways (CaMKIIδ , p65, IkBα, ERK). We have characterized some of the key signalling proteins in pro-hypertrophic calcium-dependent pathways in control and stimulated adult cardiomyocytes.

84.CONSIDERATIONS REGARDING THE HUMAN HEALTH RISK CAUSED BY POLLUTION WITH HEAVY METALS.

NINA LIOGCHII, ADAM BEGU, LORA MOŞANU, ALA DONICA

Institute of Ecology and Geography, State University of Tiraspol, Rep. Moldova

One veritable indicator regarding the state of environmental components is the state of human health. The main factor, through which human kind can encounter different diseases, is the air. Polluted air causes a range of clinical manifestations and diseases; however the effect and consequence of different atmospheric pollutants on the human body is hard to define. In this regard, an important factor is the capacity to accumulate toxic elements, for instance the capacity of certain phytobioindicators (lichens and mosses) to accumulate heavy metals dissolved in substances, aerosol. Although many heavy metals are normally present in living organisms, in quantities that do not exceed allowable limits, they represent and pose a risk for human health. Penetrating into the body, heavy metals combine with specific proteins and cumulate in different tissues. In order to avoid exposure to such pollutants are welcomed outdoors walks, particularly in areas considered less polluted, sheltered from noise and intense traffic and located far from industrial cites. This is the purpose of recreation areas. In this context, was evaluated the concentration of heavy metals in lichens samples collected from certain recreation areas of Chisinau city. There was conducted an investigation and analysis of data obtained through the risk of human body exposure to excessive concentrations of heavy metals. The systematic and morphological peculiarities of the lichens species was determined using the microscopes MBS -10, Micmend - 5 and Heavy Metal Content Identifier using the spectrophotometric atomic absorption method. The comparative analysis showed pollution with heavy metals, particularly with increased toxicity (Pb, Cd) in the Stefan cel Mare şi Sfint Parc, Scuarului Catedralei and Grădia Botanica Parks. Pollution by these chemicals, along with other environmental factors, increases the morbidity of urban population living nearby.

85.THE EFFECT OF CHITOSAN SUPPLEMENTATION ON THE OXIDATIVE STRESS IN CCL4 INDUCED CHRONIC HEPATITIS

C. LOGIN[1], ADRIANA MUREŞAN[1], SIMONA CLICHICI[1], NICOLETA DECEA[1], DOINA DAICOVICIU[1], R. MOLDOVAN[1], OANA CHILIŞOIU[2]

[1]„Iuliu Hatieganu" University of Medicine and Pharmacy Cluj-Napoca, Physiology Department
[2]Student, 6th year, Iuliu Hatieganu" University of Medicine and Pharmacy Cluj-Napoca

Carbon tetrachloride is a liposoluble substance which can pass through the hepatocyte membrane. Its toxicity is due to the $CCl_3\cdot$ radical production that acts on the endoplasmic reticulum. Antioxidant supplementation has a positive effect on this type of liver disease. The chitosan is a natural antioxidant obtained from the exoskeleton of the crustaceous; it has a hepatoprotective effect against the injuries induced by CCl4, reducing malondialdehyde synthesis. We used two groups of male Wistar rats (weight 200±10 gr). Group I (n) received by gavage 0.3 ml/kg CCl4 25% in sunflower oil twice a week for one month. Group II (n) received the same amount of CCl4 and 0.3 mg/kg chitosan twice a week intraperitoneally. We assessed the oxidative stress markers (malondialdehyde, carbonylated proteins) and antioxidant defense markers (hydrogen donors' capacity, glutathione, and sulfhydril groups) both from plasma and liver tissue. We identified a statistical significant increase in the carbonylated proteins (p.02) accompanied by a decrease of the hydrogen donors (p.001) and SH groups (p.04) as compared with the initial values. We didn't identify any significant differences between the two groups at the end of the experiment. In conclusion, CCl4 induces oxidative stress in plasma and liver tissue, but the chitosan, in the used dosage, do not offer protection against the oxidative stress induced liver injuries.

Keywords: CCl4, chitosan, oxidative stress, liver

86.RELATION BETWEEN THE INTRACELULAR Ca^{2+} CONCENTRATION AND PARVOVIRUS B19 PROTEIN

A. LUPESCU[2], CHIRIGIU L.[3], H. KAISER[1], R. KANDOLF[1], T. BOCK[1], F. LANG[2]

[1]Depts. Of Virusology Univ. of Tübingen
[2]Depts of Physiology & Molecular Pathology, Univ. of Tübingen
[3]Depts. Of Farmacy, UMF Craiova

Infections with parvovirus B19 may cause anemia, arthropathy, or cadiomyopathy, hydrops fetalis and congenital anemia. Cellular mechanisms leading to signs and symptoms of parovirus infection are illdefined. The present experiments explored the effects of viral proteins VP1, VP2 and NS1 on cytosolic Ca^{2+} activity. Viral proteins linked to a pronasterone - inducible promotor were transfected into human Retinoblastoma cells (RXR-SW) and effects on Ca^{2+} determined utilising Fura-2 fluorescence. Cytosolic Ca^{2+} activity in presence of extracellular Ca^{2+}, following removal of extracellular Ca^{2+} and subsequent addition of pump inhibitor thapsigargin (10 μM) was similar in cells transfected with VP1, VP2 or NS1 before and after simulation of expression by

pronasterone. Readdition of extracellular Ca^{2+} in the presence of thapsigargin was followed by a sharp increase of cytosolic Ca^{2+} activity which was significantly increased by pronestarone in VP1 but not VP2 or NS1 expressing cells. The effect in VP1 expressing cells was mimicked by phospholipase A2 product lysophosphatidylcholine (1 μg/ml) and abolished by replacement of methionine by alanine in the putative phospholipase A2 catalytic subunit of VP1. The observations point to the activation of host cell capacitative Ca^{2+} entry (ICRAC) by viral phospholipase A2. The Ca^{2+} entry may contribute to the pathophysiology of parvoviral infection.

87.MODIFICATIONS OF THE LIPIDS PROFILE AT 70 YEARS OLDER PEOPLE AFTER THE TREATMENT WITH STATIN AND POLICOSANOL

MIRCEA LUPUSORU[1], DUMITRU FERECHIDE[1], ANCA BADARAU[1], MARIANA ARTINO[1], GABRIELA LUPUSORU[2], CATALINA CIORNE[1], RALUCA PAPACOCEA[1], ANTOANETA PUNGA[1]

[1]Department of Physiology I UMF. "Carol Davila" Bucharest
[2]Department of Nephrology Hospital Sf. Ioan – UMF. "Carol Davila" Bucharest

Due to increased values of triglicerides and LDL-cholesterol and to the reduce value of HDL-cholesterol, the old people (after 70 years) present major risks of cerebral and coronary events. The present concepts tends to more categorical hypolipemiant targets. The major imediments of the treatment are: the increased risks of adverse reactions at high doses of statin and also the insufficient reduction of LDL-cholesterol with the existent hypolipemiant drugs. Therefore, the study and the implementation of new treatment schemes with minimal adverse effects represent the actual targets. The prospective, open-study was made in a single center and it lasted 6 months. The lipids profiles of 40 patients (with ages between 70 and 85 years) treated with simvastatin or simvastatin-policosanol were observed in correlation with different biohumoral parameters, hepatotoxicity markers and with the possible appearance of acute coronary events. The patients were chosen from a Centre of Attendance for old people. The results are superposable to the existent actual data, but there are studies which remarke that, after the administration of policosanol, the lipids profile has the same value as in those cases where the placebo method was use. So, we studies the effects of the combined treatment with simvastatin-policosanol, and the results, concerning the lipids profile, hepatotoxicity and appearance of acute coronary events, were much better in this case.

Keywords: old people, lipids profile, statin, policosanol

88.HEART RATE VARIABILITY IN SHORT RUNS OF YAW ROTATION STIMULI

ADRIAN MACOVEI, DRAGOS VLAD, DRAGOS POPESCU

National Institute of Aerospace Medicine, Bucharest, Romania

Introduction: Heart rate variability has been used to measure vestibulo-autonomic regulation with various results. Material and methods: We used 10 subjects scanned for any vestibular and neurological problems. We exposed them to a rotatory profile, eyes closed, clockwise, at subtreshold, overtreshold and high speed for 2.5 minutes. ECG was recorded. RR intervals were measured manually and input into an analysis program. Time domain and frequency domain (fast Fourier transform) were performed. Results: In time domain analysis 8 subjects scored good (with RMSSD under 25 ms and PNN50 under 5.5 %). In frequency domain only six subjects scored good (adequate HF/LF ratio). ECG were sampled into 30 seconds intervals according to rotation phase and analyzed once more. The brief result are: 4 subjects had a significant increase of HF component in overtreshold interval (2 were concordant with time domain analysis (mean RMSSD 54.8 ms) and two were not concordant (mean RMSSD 35.3 ms)); 2 subjects had increased HF in overtreshold and decrease in high speed (concordant with mean RMSSD 18 ms); 2 subjects had marked increase in HF (with HF/LF equalization) for overtreshold and high speed (one concordant with RMSSD of 32.2 ms and one not concordant with RMSSD of 14.6 ms (for high speed)); 2 subjects had inconclusive results (no trend could be established). Discussion: There seem to be a change in heart rate variability concordant with normal rotational stimuli. High speed stimuli induce an opposite change. Correlation with autonomic regulations in regard with known data will be discussed in detail. Error sources will be analyzed. Conclusion: Rotational stimuli influences heart rate variability, but the magnitude and mechanism is not clear.

Key words: heart rate variability, yaw rotation, autonomic

89.ASPECTS OF VESTIBULAR PHYSIOLOGY INVOLVED IN SPATIAL DISORIENTATION IN FLIGHT

ADRIAN MACOVEI, DRAGOS VLAD, DRAGOS POPESCU

National Institute of Aerospace Medicine, Bucharest, Romania

Introduction: Spatial disorientation has a high impact in flight safety. Materials and methods: Common illusions impacting flight performance and their physiological explanation will be presented. We add personal experience with our flight simulator, regarding the perception of lean illusion. Results: Most subjects (44 of 51) perceive illusion well and respond as expected. Difference between them is influenced by experience (p=0.06). Discussion: Limitations of current technologies to simulate vestibular illusion. Conclusion: Vestibular physiologic response is key to some important spatial disorientation events.

Key words: spatial disorientation, vestibular habituation, simulator

90.THE ANGIOTENSINS VASOMOTOR EFFECTS ON RAT RENAL ARTERIES

MARANDUCA MINELA AIDA, DUMITRIU IRINA LUCIANA, VATA LUMINITA GINA, MARIA DINCA, MIHAI CAMELIA ANA, GURZU BOGDAN, PETRESCU GHEORGHE

Department of Physiology, University of Medicine and Pharmacy "Gr T Popa" Iasi

Published data revealed that Ang II could have either vasoconstrictor or vasodilatator effects depending on the species or experimental conditions. The present study examined the vasomotor effects of angiotensinogen (Aogen), Ang I and Ang II on rat renal artery rings (RAR) using two experimental models. In the first one, the different doses of Aogen,

Ang I and Ang II was administered before cumulative administration of phenylephrine (10nM - 10microM, Phe). In the second experimental model, the RAR were precontracted with Phe (10microM) and the relaxant responses to cumulative concentration of Aogen, Ang I and Ang II (1nM – 10microM) were subsequently studied. The experiments were carrying out in the absence and in the presence of losartan (10microM, LOS) or PD123319 (10microM). The pretreatment of RAR with Ang I (100nM) or Ang II (10nM) potentiated the Phe – induced contractile effects, by an AT2 – mediated mechanism. High doses of Ang II (1 or 10 microM) reduced the Emax of Phe – induced contractions with more than 20%; this Ang II effects were blocked by LOS pretreatment. All studied angiotensins had relaxing effects. The order of potency was: Ang II > Ang I >> Aogen. The relaxant effects of Ang I and Ang II were decreased by PD123319 pretreatment but were not significantly modified by endothelial removement. In conclusion, the angiotensins could have either AT1 – mediated contractile effects or AT2 – dependent but endothelium – independent relaxing effects.

Key words: angiotensinogen, angiotensin I, angiotensin II, renal artery.

91.BREAKAGE RESISTANCE OF THE FIBRIN CLOT IN SUBJECTS WITH HYPERCHOLESTEROLEMIA

H. MATCAS[1], VERONICA SFREDEL[2], SIMONA GUSTI[2]

[1]Emergency University Hospital, Bucharest
[2]Department of Physiology, University of Medicine and Pharmacy, Craiova

Our purpose was to test if the breakage resistance of the fibrin clot is influenced by high cholesterol levels. Material and method: we have determined the breakage resistance of the fibrin clot in a group of 45 elderly patients, with an average of 61,4 years old, 19 females and 26 males, whose cholesterol level was over 250 mg/dl in two consequent determinations. These measurements were performed on venous integral blood. Simultaneously, we investigated the fluid clotting equilibrium by the acknowledged temporal methods: PT (protrombin time), INR, APTT and the fibrinogen concentration in the plasma. The control group consisted of an equal number of subjects, whose age and sex ratios were comparable with the experimental group, but whose lipidic parameters were within normal limits. Results: in the control group, the fibrinresistometric values had an average value of 289,3 FU, within normal limits for this age group. The cholesterol values of the patients with hypercholesterolemia were increased with 18,9% in the group whose cholesterol was between 250-300 mg/dl, and increased with 23,4 % in those cases where cholesterol values were over 500 mg/dl. PT, INR, APTT were normal, and fibrinogen levels registered slight increases in patients with cholesterol level over 500 mg/dl. Conclusions: While the temporal tests of haemostasis had normal values, the resistance to breakage of the fibrin clot had significant increases, indicating a tendency to hypercoagulability and thrombosis in subjects with hypercholesterolemia. We believe the presented method proves to have an increased sensitivity in determining thrombosis risk compared to conventional tests for evaluating haemostasis.

Key words: dyslipidemias, thrombosis, resistance, fibrin clot.

92.THE INFLUENCE OF HYPOLIPEMIANT TREATMENT ON BREAKAGE RESISTANCE OF THE FIBRIN CLOT.

H. MATCAS[1], VERONICA SFREDEL[2], SIMONA GUSTI[2]

[1]Emergency University Hospital, Bucharest
[2]Department of Physiology, University of Medicine and Pharmacy, Craiova

Objectives. In previous studies we have discovered that the breakage resistance of the fibrin clot increases in dyslipidemias, indicating thrombosis risk. Our purpose is to test if hypolipemiant treatment modifies this parameter, and if it consequently influences haemostasis parameters. Material and method. We have measured the breakage resistance of the fibrin clot in 22 patients with hypercholesterolemia at the beginning of the treatment, 1 month and 3 month after statin therapy. These measurements were performed on venous integral blood. Simultaneously, we investigated the fluid clotting equilibrium by the acknowledged temporal methods: PT (prothrombin time), INR, APTT and the fibrinogen concentration in the plasma. Results. The normal range of the method: 200-300 FU. Mean values of the breakage resistance of the fibrin clot were 389,2 FU before administrating statins, 382,5 UF after 1 month of treatment and 375, 1 UF after 3 months of treatment. It can be noticed that after 3 months of treatment, the decrease of the breakage resistance of the fibrin clot is of 3,7%, insignificant to correlate with statin therapy for this haemostasis param. PT, INR, APTT were normal, and fibrinogen concentration had slight increases in those patients with cholesterol levels over 500 mg/dl. On average, the cholesterol values after 3 months decreased from 411 mg/dl to 250 mg/dl. Conclusions. Despite a significant decrease in the cholesterol levels, the breakage resistance of the fibrin clot had small values, which were insignificant. This could be the result of the already present vascular lesions which continue to maintain hypercoagulability.

Key words: resistance, fibrin clot, dyslipidemias, thrombosis,

93.MODIFICATION OF SERUM LIPID PROFILE IN DIABETIC PATIENTS

RODICA MATEESCU[1], CLAUDIA BORZA[2], GABRIELA NEGRISANU[3], CORINA SERBAN[2], LELIA SUSAN[4]

[1]University of Medicine and Pharmacy "Victor Babes", Timisoara, Department of Physiology
[2]University of Medicine and Pharmacy "Victor Babes", Timisoara, Department of Pathophysiology
[3]University of Medicine and Pharmacy "Victor Babes", Timisoara, Department of 3rd Internal Medicine
[4]University of Medicine and Pharmacy "Victor Babes", Timisoara, The IVth Medical Clinic

Aim: Impaired lipid metabolism resulting from uncontrolled hyperglycemia is implicated in cardiovascular complications in diabetes patients. The purpose of this study was to compare serum lipid profile between a group of diabetic patients and a group of non-diabetes patients. Material and methods: The study was performed on 268 diabetic patients (100 men and 168 women, aged between 45-75 years) and 250 non-diabetic subjects (92 men and 158 women, aged

between 45-79 years) hospitalized between January 2006 and January 2008 in the IVth Medical Clinic of University of Medicine and Pharmacy Victor Babes Timisoara. All patients underwent complete clinical and paraclinical exams. We determined in all patients: weight, height, blood pressure, total cholesterol (TC), triglycerides (TG), HDL-cholesterol and LDL-cholesterol. LDL-cholesterol was calculated with Friedewald formula. Results: The prevalence of isolated hypercholesterolemia (TC ≥ 240mg/dL, TG < 200 mg/dL) was not significantly different in non-diabetic subjects (21.8%), patients with type 1 diabetes (19.3%) and patients with type 2 diabetes (22.3%). The prevalence of combined hyperlipidemia (TC ≥ 240mg/dL, TG ≥ 200 mg/dL) was higher in type 2 diabetes patients (20.4%) compared with non-diabetic patients (3.8%) and patients with type 1 diabetes (12.7%). The patients with diabetes had low HDL-cholesterol (65.9% with type 1 and 56.8% with type 2) comparative with non-diabetes subjects. Conclusion: The most frequent lipid disorders associated with diabetes mellitus were combined hyperlipidemia and low HDL-cholesterol. First line of the management of dyslipidemia in diabetic patients with lipid disorders is lifestyle intervention and glucose control.

Keywords: lipid profile, type 1 diabetes, type 2 diabetes

94.THE PREVALENCE OF RISK FACTORS AND SYMPTOMS IN TYPE 2 DIABETIC PATIENTS

RODICA MATEESCU[1], CLAUDIA BORZA[2], GABRIELA NEGRISANU[3], CORINA SERBAN[2], LELIA SUSAN[4]

[1]University of Medicine and Pharmacy "Victor Babes", Timisoara, Department of Physiology
[2]University of Medicine and Pharmacy "Victor Babes", Timisoara, Department of Pathophysiology
[3]University of Medicine and Pharmacy "Victor Babes", Timisoara, Department of 3rd Internal Medicine
[4]University of Medicine and Pharmacy "Victor Babes", Timisoara, The IVth Medical Clinic

Aim: A great number of type 2 diabetic patients present one or more symptoms by the time of diagnosis. Our objective in this study was to evaluate the prevalence of risk factors and symptoms in recently diagnosed type II diabetic patients. Material and methods: This cross-sectional prevalence study was performed between March, 2008 and September, 2008, in the IVth Medical Clinic of University of Medicine and Pharmacy "Victor Babes" Timisoara. The study group included 220 type II diabetics whose disease had been diagnosed within one year prior to the start of our study. The collected data included medical history, physical examination and clinical tests. Height and weight of each patient were measured and body mass index (BMI) was calculated for each patient. Results: Of the 110 patients studied, 48 were men (43.63%) and 62 were women (56.36%). The mean age of the patients was 58.8 years at the time of diagnosis. 63.5% of the patients complained of weakness and fatigue and 19.2 % mentioned a history of transient blurred vision. 55% of them presented: polyuria, polydypsia and weight loss. 48% of the patients had a history of diabetes in their first-degree relatives. 72% of patients had a BMI equal to or greater than 25 and 40% of them had a sedentary life. Conclusion: Considering the big numbers of symptoms that affect quality of life of the diabetic patients are necessary new screening program that may help us to diagnose type II diabetes earlier and control it more effectively.

Keywords: type II diabetes mellitus, BMI, symptoms, risk factors

95.STUDY REGARDING CORRELATION BETWEEN IN VITRO REACTIVITY PARAMETERS OF INTERNAL THORACIC ARTERY AND MARKERS OF ENDOTHELIAL DISFUNCTION AND ATHEROSCLEROSIS

MIHALAS GEORGETA[1], NOVEANU LAVINIA[1], SAVOIU–BALINT GERMAINE[2], FIRA–MLADINESCU OVIDIU[2], GHERBON ADRIANA[1], ANDOR MINODORA[3]

[1]UMP "V. Babes Timisoara - Department of Physiology
[2]UMP "V. Babes Timisoara - Department of Physiopathology
[3]UMP "V. Babes Timisoara - Department of Medical Semeiology II

Introduction: Angiographic studies performed after aorto-coronary by-pass intervention showed a declining response of artery graft in endothelial dependent vasodilation. Objectives: (1) organ bath study of internal thoracic artery reactivity and (2) study regarding correlation of plasmatic levels of lipid fractions, endothelin - 1, ox – LDL and hsCRP, previously measured in patients with aorto-coronary by-pass interventions. Material and methods: maximal endothelial – dependent vasodilating response to adenosine (10-4M) and endothelial – independent response to sodium nitropruside (10-4M), was evaluated on 32 rings of internal thoracic artery. Fragments of artery were taken during aorto-coronary by-pass in patients with ischemic heart disease confirmed by coronarography. Results: Maximal vasodilating response to adenosine was negatively and significantly correlated with total cholesterol (r - 0.60, p 0.003), LDL – cholesterol (r - 0.66, p 0.004), endothelin – 1 (r - 0.61, p 0.001) and ox – LDL (r -0.62, p < 0.001). There were no significant statistical correlations with plasma hsCRP (r - 0.32, p 0.06). Conclusions: Results regarding correlation between maximal endothelial – dependent vasodilating reasponse of internal thoracic artery and markers of endothelial disfunction and atherosclerosis, in patients with aorto-coronary by-pass, may represent the basis for future studying of factors involved in arterial graft patency.

Key words: internal thoracic artery, adenosine, cholesterol, endotelin-1, ox–LDL, hsCRP.

96.ELECTROPHYSIOLOGICAL ASPECTS OF GALVANIC SKIN RESPONSE DURING MODERATED PHYSICAL EFFORT: SEX AND DISEASE COMPARISON

CLAUDIU MIRESCU, TRAIAN BOCU, RAMONA HANDA

University of Medicine and Pharmacy, "Iuliu Hatieganu", Cluj-Napoca

Introduction. The galvanic skin response - GSR is a measurement concerning the resistance of the skin to the passage of electric current. It is determined especially by the superficial stratum of the skin and it is influenced by the activity of the sweat glands. The GSR is an electrophysiological measurement which could reveal important information about the state of the body. The aim of the study was to evaluate the correlation between the GSR and moderate physical effort. Material and methods. We collected data from 60 participants. They were subjected to a moderate physical effort of 25 Watts using an ergonomic bicycle, for 50 seconds. During this time the variation GSR was measured. Also, the GSR was recorded 10 seconds before the effort and 10 seconds after the effort. Subjects were applied the

Ruffier test, to investigate the cardiovascular adaptation to effort. Results. It was found that during the rest periods, GSR has remained roughly constant. With the onset of effort, GSR decreases rapidly and linear in the first 10 seconds, then remains constant until the end of the experiment. Dropping the GSR during the effort has been made with an average slope of -5.81+/-12.32. There was no correlation with the Ruffier index. Discussions. GSR decrease is probably due to the rapid reaction of the sudoripary glands, which are filled with secretion fluid. Abruptness with which the GSR decreases depends on the reactivity of the sudoripary glands, which cannot be influenced by the degree of cardiovascular adaptation to effort.

97.PATHOGENESIS OF BRAIN INJURY IN ACUTE ISCHEMIC STROKE

SMARANDA MITRAN[1], VALERICA TUDORICA[2],IULIA TUDORASCU[3], BADEA DANIELA[1], MARIA VRABETE[3]

[1]The Physiology Department of the University of Medicine and Pharmacy, Craiova, Romania
[2]The Neurology Department of the University of Medicine and Pharmacy, Craiova, Romania
[3]The Pathophysiology Department of the University of Medicine and Pharmacy, Craiova, Romania

An ischemic stroke is the sudden and permanent death of brain cells that occurs when the flow of blood to a part of the brain is blocked and oxygen cannot be delivered to the brain. All aerobic tissues suffer injury when they are subjected to ischemia/reperfusion. The pathophysiological mechanisms leading to neuronal damage after ischemic stroke are complex and multifactorial. Regardless of the mechanism of appearance, ischemia/reperfusion initiates a series of events that ultimately lead to neuronal damage and death. Recently, special attention has been paid to the cellular mechanisms determining stroke appearance and development. It is known that the reduction of blood flow leads to a reduced production of high-energetic phosphates. Such an energetic failure causes membrane depolarization and uncontrolled release of excitatory amino acids such as glutamate into the extracellular space (excitotoxicity). Glutamate acts upon different types of receptors, for example, NMDA (N-methyl-d-aspartate) and AMPA (α-amino-3-hydroxy-5-methylisoxasolepropionic acid), which overload neurons with calcium. The enhanced intracellular calcium level, in its part, initiates a number of key events: nuclease activation, conversion of xanthine dehydrogenase to xanthine oxidase, release of excitatory neurotransmitters, and iron-mediated lipid peroxidation. The level of a number of cytokines is increased after stroke (tumor necrotic factor (TNF)-α, interleukin (IL) 1 and interferon-γ) and cytokine up-regulation is a key stimulus for activating inducible NOS (iNOS). The last leads to a sustained production of nitric oxide (NO). NO is thermodynamically unstable and tends to react with other molecules, thus causing oxidation, nitrosylation, or nitration of proteins with the concomitant effects on many cellular mechanisms.

Keywords: ischemia, reperfusion, brain injury.

98.ASPECTS OF OXIDATIVE STRESS IN CEREBRAL ISCHEMIA BASED ON EXPERIMENTAL MODELS

SMARANDA MITRAN[1], TUDOR- ADRIAN BALSEANU[1], VERONICA SFREDEL[1], MARIUS CRISTIAN NEAMȚU[2], MARIA IANCAU[1]

[1]The Physiology Department of the University of Medicine and Pharmacy, Craiova, Romania
[2]Faculty of Midwives and Medical Assistance, Department of Normal and Pathologic Physiology University of Medicine and Pharmacy Craiova

On the basis of ischemia/reperfusion models, evidence has been accumulated for the role of free radicals in the pathogenesis of ischemic lesions. In these models, to demonstrate free radical generation, compounds have been used that are capable of interacting with radicals to generate stable products, which could be registered. Experimental studies using a microdialysis technique have demonstrated hydroxyl radical production in experimental ischemia/reperfusion. Since antioxidants are consumed in reactions with free radicals, the measurement of their concentration or activity is used as an indirect marker of the oxidative stress severity. A reduced level of α-tocopherol, ascorbic acid, and ubiquinones has been found in the ischemic center after 30 min ischemia in rats. In a primate model, after cerebral ischemia, a reduced level of ascorbic acid has been reported in the right basal ganglia 2 h post ischemia. Ten minutes after reperfusion, Katz et al. have determined a significant decrease in the level of ascorbate, glutathione, total thiols, and α-tocopherol in the hippocampus in an experimental model. There are also data on a global elevation of brain SOD activity following forebrain ischemia in rats or the increase of the level of both cytosolic CuZn SOD and mitochondrial Mn SOD after transient forebrain ischemia. Genetically modified animals are also a useful way of evaluating the molecular mechanisms of injury during transient and acute ischemic disturbances in brain circulation. The accumulating results with the models show that oxidative stress is involved in cell death after cerebral ischemia/reperfusion.

99. IN VIVO AND IN VITRO EFFECTS OF SSDNA-SWCNT.

T. MOCAN[1], S.CLICHICI[1], A. FILIP[1], AR. BIRIŞ[2], D. LUPU[2], Ş.SIMON[2], N. DECEA[1], L. MOCAN[3], M. MAHMOOD[4], AS BIRIS[4], A. MUREŞAN[1]

[1]Department of Physiology, "Iuliu Hatieganu" Univ of Medicine and Pharmacy Cluj-Napoca, Romania
[2]National R&D Institute of isotopic and Molecular Technologies, Cluj-Napoca, Romania
[3]Nanomedicine Centre, "O.Fodor" Emmergency Hospital, Cluj-Napoca, Romania
[4]Nanotechnology Centre, University of Little Rock, Arkansas, USA

Introduction: SWCNT recently represent a material of extensive interest due to their promising physical and chemical structure. Many possible clinical applications have been proposed, including diagnosis, drug delivery and photothermal therapies. However, their toxicity is still under debate. Our aim was to evaluate the in vitro as well as in vivo toxicity of ssDNA-SWCNT. Material and Method: ss-DNA-SWCNT water solution was obtained through 7 hr sonication. NaCl was added

up to the concentration of 0.9%.In vitro toxicity was assessed on HeLa cell line using Tripan Blue protocol. Optical microscopy was performed to for cell shape, dimensions and viability assessment. In vivo effects were measured in Wistar rats by dynamic measurement (3 hrs, 6 hrs, 24 hrs) of malondialdehyde, carbonylate proteins, hydrogen donor ability (HD), sulfhydryl groups and gluthation blood levels.Results: In vitro exposure induced decrease of cell viability as well as cell shape and dimensions alterations. Dynamic decrease of HD blood levels were obtained after in vivo exposure, with significant differences($p<0.05$) after 24 hrs. Conclusions: Our data come as evidences of SWCNT citotoxicity and support the idea of oxidative stress pathways implication in their toxic effect.

Keywords: SWCNT, citotoxicity, oxidative stress, in vivo, in vitro

100.THE STRESS REPERCUSSIONS THAT INFLUENCE THE FORMATION AND KEEPING OF THE MEMORY VESTIGE TO THE CHILDREN OF 5 – 6 YEARS OLD

LORA MOŞANU-ŞUPAC, NINA LIOGCHII, CENAŞA VIORICA

Tiraspol State University, Chişinău, Institute of Ecology and Geography, MSA

Nowadays, Psychophysiology and transpersonal psychology is more and more preoccupied to penetrate into the abyssal dynamic of the psychic, and for this a great importance has the understanding and explanation of memory processes, especially the formation and keeping of the memory vestige in childhood. Actually, the specialists are making many investigations referring to behavior and cognitive problems. The same happen in the area of stress. However, the results about the realization of these psychological functions, at the action of various stress' factors through which children pass in different conditions of activity are not completely clear. The research' purpose was to investigate stress' repercussions in the formation of memory vestige to the children in the comfortable conditions and in conditions of relative stress. The quantitative signs of attention and memory, according to which memory vestige was investigated, was established by applying Burdon-Rjician- Strula Test, modified, standardized and adapted to the necessary conditions by the workers of Psychophysiology laboratory of MSA (1996). The test was effectuated for five times. First three times at the interval of one day, the fourth was on fifth day and the last test on eighteenth day. The researches that were done allow us to underline those specific features, that are manifesting in the formation and keeping of the memory vestige in estimated conditions. From the beginning it was established a large dispersion of the children in the groups at the initial steps of the test, in condition of relative stress and their domination in decreased groups, so that closer to the ending of the test they reached higher features, in comparison with the conditions of relative comfort. Grace to the obtained results we can say that the conditions of relative stress contribute to distinguish individual typical peculiarities of memory, in case of 5 – 6 years old children and they can be considered as a factor that favor the formation and keeping of memory vestige to children with high stress resistance.

101. ELECTROMYOGRAM AND MECHANOMYOGRAM CHANGES IN FATIGUED MUSCLE DURING SUSTAINED CONTRACTION IN SPORTSMEN

DANIELA MOTOC, RAMONA BURLACU, CECILIA AVRAM, SORIN TALPES, FRANCISC SCHNEIDER

Department of Physiology, Faculty of Medicine,West Univeristy "Vasile Goldis" Arad

Summary: In the surface electromyogram and mechanomyogram, the electrical and mechanical activities of recruited motor units are sumated. The intensity and duration of muscle contraction and muscle fatigue influence the electrical and mechanical properties of the active motor units. The aim of this study was to evaluate fatigue-induced changes in the electrical and mechanical properties of motor units, using the analysis of surface electromyogram and mechanomyogram. The electromyogram and mechanomyogram were simultaneously recorded in sustained submaximal isometric contractions (handgrip), with surface electrodes and hand-dynamometer transducers, from thirty one sportsmen. We have followed the changes in the maximum amplitude of the signal and the force of contraction. From the time and frequency domain analysis of the signals, the integrated electromyogram and median frequency of power spectrum were calculated. The conclusions were consistent in validating the use of these parameters in evaluation of neuromuscular fatigue.

Keywords: surface electromyography, mechanomyogram, sustained isometric contraction, maximum amplitude, force of contraction, integrated EMG, median frequency, muscle fatigue.

102. PREVENTIVE EFFECTS OF ALPHA-TOCOPHEROL ON HIV PROTEASE INHIBITORS-INDUCED ATHEROSCLEROSIS

ADELINA MUNTEANU VLAD, ANGELO AZZI and JEAN-MARC ZINGG

UMF "Carol Davila" Bucuresti Departament of Physiology II

Therapies with antiretroviral protease inhibitors (ARPI) are correlated with a higher risk for dyslipidemia, hypercholesterolemia, and atherosclerosis. Recent studies led to the hypothesis that upregulation of CD36 scavenger receptor responsible for the uptake of oxLDL is critically involved. The aim of this study was to establish whether alpha-tocopherol can reduce CD36 scavenger receptor overexpression occurring after treatment of monocytes with the ARPI ritonavir. We show here that treatment of THP-1 monocytes with ritonavir increases total protein and surface expression of CD36; however, only weak changes are observed at the mRNA level, suggesting that CD36 overexpression occurs mainly at the posttranscriptional level. Concentrations of ritonavir that upregulate CD36 expression inhibit proteasome activity in THP-1 cells, indicating a possible regulatory role of the proteasome in CD36 overexpression. alpha-Tocopherol efficiently normalizes CD36 protein overexpression after ritonavir treatment and reduces oxLDL uptake. Furthermore, in THP-1 monocytes, alpha-tocopherol reverses the proteasome activity inhibited by ritonavir. Therefore, we can conclude that an increased CD36 protein expression in THP-1 monocytes induced by ritonavir can be normalized by alpha-tocopherol and these effects are involving

modulation of proteasome activity.

Key words: atherosclerosis, CD36 scavenger receptor, alpha-tocopherol, proteasome, monocytes.

103. EXPERIMENTAL STUDY REGARDING THE EFFECTS OF HYPOBARIC HYPOXIA ON SOME ANTIOXIDANT ENZYMES

A.MURESAN[1], S.SUCIU[1], S.GHIBU[1], D.DAICOVICIU[1], I.D.POSTESCU[2], C.LOGIN[1]

[1]"I.Hatieganu" University of Medicine and Pharmacy, Cluj-Napoca, Romania
[2]"I.Chiricuta" Oncological Institute, Cluj-Napoca, Romania

Background: It is generally accepted the oxygen reactive species involvement in both physiological and pathological processes. High-altitude hypoxia may induce oxidative stress in humans. Aim: The aim of the present study was to investigate the effect of polyphenols on antioxidant enzymes in rats exposed to high altitude. Materials and methods: 30 male Wistar rats, divided in 3 groups, were used in the experiment: group I – controls, Group II – rats exposed to 5500 m simulated altitude in a baric chamber for 24 hours, group III – rats exposed to 5500 simulated altitude and which were administered 50 mg/kg body weight polyphenols immediately after high altitude exposure. Rats were sacrificed 1 hour after altitude exposure and blood samples were obtained. In these samples superoxide dismutase (SOD), catalase (CAT) and glutathione peroxidase (GPx) peroxidase activity were measured. Results: SOD levels in erythrocyte lisate was found to be lower (6.23±0.36 U/mg) and CAT levels higher (5.95±0.7 U/mg) in rats exposed to hogh altitude; polyphenols treatment returned the levels of both enzymes (SOD 9.4±1.04 U/mg; CAT 4.94±0.2 U/mg) close to those obtained in controls (SOD 9.31±1.04 U/mg, CAT 4.94±0.24 U/mg). regarding GPx, its activity following high altitude exposure (0.035±0.006 U/mg) was similar to that found in controls (0.04±0.009 U/mg); polyphenols significantly improved GPx levels (0.205±0.2 U/mg). Conclusion: Polyphenols seem to prevent the changes in antioxidant enzyme activity induced by high altitude exposure.

Key words: hypobaric hypoxia, antioxidant enzymes, polyphenols

104. OXIDATIVE STRESS EXPLORATION DEPARTMENT. ACHIEVEMENTS. PERSPECTIVES.

ADRIANA MURESAN

"I.Hatieganu" University of Medicine and Pharmacy, Cluj-Napoca, Romania

105. EXPERIMENTAL PHARMACOLOGIC THERAPIES IN IMPROVING DEMYELINATED AXONS CONDUCTING IN MULTIPLE SCLEROSIS

MARIUS CRISTIAN NEAMȚU[1], MARIA IANCĂU[2], ELENA TAINA AVRAMESCU[3], LUCIAN RADU NEAMȚU[4]

[1]University of Medicine and Pharmacy Craiova, Faculty of Midwives and Medical Assistance, Department of Normal and Pathologic Physiology
[2] University of Medicine and Pharmacy Craiova, Faculty of General Medicine, Department of Normal Physiology
[3]University of Craiova, Faculty of physical Education and Sport, Department of Human Anatomy
[4] University of Medicine and Pharmacy Craiova, Faculty of General Medicine, Department of Human Anatomy

Since the transmission of electrochemical messages between central nervous system and the body is interrupted in multiple sclerosis there are necessary certain therapies to improve the propagation of nervous impulses, particularly to prevent the blocking of nervous impulse conduct in demyelinated axons. Due to the fact that they register anomalies in pothasium activity, the researchers have been studying the drugs which block pothasic channels, influencing thus directly nervous impulse propagation by favouring the increase of Na exchanges and the decrease of initiation threshold of the action potential. Certain studies on a low scale have demonstrated that the derivatives of a medicine called diaminopyridin have temporary improved the sight, coordination and strength of a patient suffering both from visual symtoms and temperature hypersensitivity. Good knowledge of heterogenous spatial distribution of rapid K+ channels and their location beneath myelin stratum has led to the hypothesis of using the blocking agent 4-AP to prevent conducting blocking. This approach argument is given by the fact that blocking these channels should extend the duration of the action potential by decreasing repolarization and thus increasing both the density of depolarization current in demyelinated areas and the possibility of reaching the threshold. Pharmacologic inhibition of Na+, K+ ATP has led to the increase of nervous impulse conduct in rats with spine demyelinated lesions. A possible explanation of this fact may be that partial blocking of electrogenic pump will depolarize the axons and bring them in the proximity of threshold.

Key words: nervous conduct, demyelinated axons

106. NOVELTIES IN ELETROPHYSIOLOGIC AND BIOMECHANIC DATA ACQUISITION AT PATIENTS WITH MULTIPLE SCLEROSIS

MARIUS CRISTIAN NEAMȚU[1], ELENA TAINA AVRAMESCU[2]

[1]University of Medicine and Pharmacy Craiova, Faculty of Midwives and Medical Assistance, Department of Normal and Pathologic Physiology
[2]University of Craiova, Faculty of physical Education and Sport, Department of Human Anatomy

Priorities in analysing human movement are represented by dynamic approach of the involved biosystems. In fields such as virtual reality and computerized graphics the researchers are trying to use different methods to stimulate human movements. The most practical method is considered the use of a seizure system and movement analysis (Knudson and Morrison, 1997).Movement analysis is a non-invasive technique and the quantitative determination of the dimensions by image aquisition system does not influence the behaviour of the investigated subject. The research made prospective random studies regarding the efficiency of functional electrical stimulation on a number of 20 subjects who followed a programme at the Center of Study and Research of Human Movement, University of Craiova. The study used a distribution platform

of plantar pressure Footscan Scientific Version, RSscan International, Olen, Belgia. Studied parameters:image of pressure distribution on both soles for each movement moment;force value for each time unit, for the ten specific zones; forțe: hallux, Phalanx, metacarpal bones, mediane zone, medial and lateral zones of the heel; average pressure value for the ten zones, depending on time; surface of the ten contact zones for each frame; specific angles for each frame (depending on time); speed of charging the surfaces, for each frame. The recordings made by the use of pressure platform allowed the objective study of analysed patients` walking defficiencies such as crural defficiency, bilateral femoral defficiency, orthostatism and spastic walking, bilateral crural pyramidal hypertonia, clonoidia at lower members.

Key words: pressure platform, movement analysis

107. CALCIUM IONS AND OSTEOCALCIN – MARKERS OF BONE ACTIVITY IN OSTEOPOROSIS

LILIANA NEO-LACULICEANU[1], CAMELIA GURBAN[1], FELICIA SFRIJAN[1], LAURA GOTIA[2], SMARANDA GOTIA[2], M. COJOCARU[3], V. ERDELEAN[4], IASMINA SAVESCU[5], CAMELIA CIACLI[6], MARIA PUSCHITA[6]

[1]''Victor Babes" University of Medicine and Pharmacy, Biochemistry Department, Timisoara, Romania
[2]''Victor Babes" University of Medicine and Pharmacy, Physiology Department, Timisoara, Romania
[3]''Titu Maiorescu'' University of Medicine and Pharmacy, Physiology Department, Bucharest, Romania
[4]Municipal Clinical Hospital, Clinical Laboratory Department, Timisoara, Romania
[5]''Banat'' University of Agricultural Sciences and Veterinary Medicine, TST-SHS Department, Timisoara, Romania
[6]''Vasile Goldis" University of Medicine and Pharmacy, Immunology Department, Arad, Romania

Background: Calcium ions and osteocalcin play a role in bone turnover at postmenopausal osteoporosis. Objectives: To analyze if serum levels of osteocalcin and bone levels of calcium ions are elevated at postmenopausal osteoporosis. Material and Methods: The study was made on two cohorts of patients with postmenopausal osteoporosis (depending on estrogenic deprivation period) comparing them with control group (postmenopausal women without osteoporosis). The serum levels of the osteocalcin were measured by enzyme-linked immunoasorbent assay technique, and bone levels of the calcium ions were measured by the bone flame atomic absorption spectrometry analyzed. Results: In cohort 1 (below 15 yrs of estrogenic deprivation) serum levels of osteocalcin were 20.12±0.87 ng/ml and bone levels of calcium ions were 10.65±0.03 mg/g of bone. In cohort 2 (over 15 yr of estrogenic deprivation) serum levels of osteocalcin were 15.12±1.55 ng/ml and bone levels of calcium ions were 11.63±0.14 mg/g of bone. In control group serum levels of osteocalcin were 16.22±1.62 ng/ml and bone levels of calcium ions were 14.24±0.13 mg/g of bone. Conclusions: The increased serum levels of osteocalcin demonstrates osteoblasts activation (cohort 1), and the decreased serum levels of osteocalcin demonstrates osteoblasts apoptosis stimulation (cohort 2), associated with estrogens deficiency postmenopausal installed. Calcium ions decreases at bone level (cohort 1 and 2) have as a consequence localized bone demineralization, being favorable to bone microfractures appearance.

Key words: osteocalcin, bone calcium ions, bone turnover.

108. EVALUATION OF INTERLEUKIN-18 IN PATIENTS WITH MYOCARDIAL INFARCTION - BIOMARKER OF ATHEROSCLEROTIC PLAQUE INSTABILITY

LILIANA NEO-LACULICEANU[1], FELICIA SFRIJAN[1], MADALINA GOLIEANU[2], SMARANDA GOTIA[3], MARIA PUSCHITA[4], MANOLE COJOCARU[5], CAMELIA CIACLI[4], LAURA GOTIA[3], CAMELIA GURBAN[1]

[1]Biochemistry Department, "Victor Babes" University of Medicine and Pharmacy, Timisoara, Romania
[2]Individual Medical Center, Galati, Romania
[3]Physiology Department, "Victor Babes" University of Medicine and Pharmacy Timisoara, Romania
[4]Cardiology Department, "Vasile Goldis" University of Medicine and Pharmacy, Arad, Romania
[5]Physiology Department, "Titu Maiorescu" University of Medicine and Pharmacy, Bucharest, Romania

Objective: This study was conducted to analyze the circulating level of interleukin-18 in patients with acute myocardial infarction, unstable angina, stable angina, and to estimate the proportion of immune-inflammatory answer prevalent feature in coronary artery disease. Material and methods: Samples were obtained from patients with acute myocardial infarction (70), unstable angina (40), stable angina (50) and from control subjects (40). Enzyme-linked immunoasorbent assay was used for quantification of serum levels of Interleukin-18. Results: Compared with the control group (0.89±0.15 pg/ml), the levels of Interleukin-18 were significantly higher in the all groups of patients (acute myocardial infarction: 5.87±1.20 pg/ml, $p<0.05$; unstable angina: 3.82±0.70 pg/ml, $p<0.05$; stable angina: 2.54±0.44 pg/ml, $p<0.05$). There were no statistically significant differences in the concentration of Interleukin-18 among the angina groups ($p>0.05$). Conclusions: The concentrations of Interleukin-18 were significantly higher in the coronary artery disease groups. These results were related to the inflammatory markers responses in atherosclerosis and suggest that Interleukin-18 is involved both, in initial stages of development of coronary atherosclerosis and in circumstance of plaque destabilization.

Key words: interleukin-18, atherosclerosis, coronary artery disease, and inflammation.

109. EXPRESSION OF ADHESION MOLECULES AFTER INCUBATION WITH PRO-INFLAMMATORY MEDIATORS OF ENDOTHELIAL-LIKE CELLS DERIVED FROM HUMAN MESENCHYMAL STEM CELLS

DACIANA CARMEN NISTOR, IOANA SISKA, CARMEN BUNU, GABRIELA TANASIE, FLORINA BOJIN, DANA PLESCA, VIRGIL PAUNESCU

University of Medicine and Pharmacy Victor Babes, Timisoara, Department of Phisiology and Immunology

Abstract : Purpose. 1. Isolation of human mesenchymal stem cells (MSCs) from bone marrow and differentiation toward the endothelial lineage. 2. Morphologic characterization of endothelial-like cells (ECs)

obtained. 3. Behavior study of ECs obtained in culture using expression analysis of adhesion molecules (ECAM) inducible on luminal ECs surface after incubation with pro-inflammatory mediators.

Materials and methods. After bone marrow extraction from sternum, posterior-superior iliac crest and femoral head, MSCs were isolated using positive and negative selection procedures. Cells were cultured in presence of culture media supplemented with VEGF. ECs obtained were characterized using contrast phase microscopy, immunohistochemistry staining for surface antigen CD31 and von Willebrandt factor, as well as PCR analysis of KDR, vWF, VE-cadherin and eNOS expression. Further behavior studies of ECs in culture conditions were performed considering analysis of ECAM, CD54, CD106, CD62E and CD62P expression, under the circumstances of incubating HUVEC and ECs cultures in presence of TNFalfa, LPS and H2O2 added in similar concentrations to those generated in vivo and/or in vitro in pathologic conditions. Results. Bone marrow-derived MSCs isolated by adherence methods, cultivated in appropriate conditions can give rise to ECs after 7-14 days of culture. CD54 and CD106 expression was not changed after stimulation with TNFalfa, LPS, H2O2, similar to the results obtained using pre-incubation with TNfalfa or LPS, before short-time incubation with H2O2, which suggested that these cells are functionally immature. However, von Willebrandt factor, CD31, eNOS, KDR and VE-cadherin expression in ECs indicated that these cells exhibit the characteristics of endothelial progenitors and thus can be used for therapeutic purpose.

Keywords: mesenchymal stem cells, endothelial cells, immature functionally, adhesion molecules.

110. ALDOSTERONE RAPIDLY POTENTIATES BOTH THE NO AND EDHF COMPONENTS OF ENDOTHELIUM-DEPENDENT RELAXATION IN RAT MESENTERIC ARTERIES

OPRISA C, SERBAN IL, MUNGIU OC, BRANISTEANU DD, SERBAN DN

"Grigore T. Popa" University of Medicine and Pharmacy, Iasi, Romania

Despite variable vascular effects, the rapid nongenomic action of aldosterone generally attenuates the effect of vasoconstrictor agents, due to nitric-oxide-synthase activation (via mineralocorticoid receptors and the HSP90/PI3K/PKB pathway), but also potentiates vasoconstriction in absence of endothelium. We investigated for the first time the effect of aldosterone (1 nM to 1 microM) upon the EDHF response, using isometric myography of rings (1 mm wide) from mesenteric artery and first order branches, obtained from male Wistar rats (200-250 g). After 1 h equilibration under a tension of 1 g the vessels were checked for absence of myogenic response to stretch and for complete endothelium-dependent relaxation (EDR) induced by carbachol (0.01 mM) when precontracted by 0.01 mM phenylephrine. We tested the EDR induced by carbachol (100 nM to 0.1 mM) in phenylephrine-precontracted rings, as global effect and its EDHF component (in presence of 0.1 mM L-NAME and 0.01 mM indomethacin). Results were expressed as residual active tension (% of precontraction level; mean ± SEM; n6). We observed that aldosterone induces contraction in the presence of L-NAME. It NOS-dependently inhibits the contractions induced by phenylephrine (10 nM to 10 microM) or high extracellular K (30 to 90 mM), but far from the pronounced effects in renal arterioles which result from NOS activation by aldosterone. Moreover, aldosterone potentiates both the global EDR and its EDHF component, but these effects are also relatively weak and they are visible only for concentrations above 10 nM aldosterone (which is beyond the physiological range). Supported by Romanian Grant CNCSIS-A1222/2007-2008.

Key words: aldosterone, endothelium, EDHF, resistance arteries

111. ANTIEPILEPTIC EFFECTS OF SOMATOSTATINE IN LOW MAGNESIUM INDUCED SEIZURE LIKE EVENTS

ORBÁN-KIS KÁROLY[1,2], ANTAL KÁROLY[2], SZILÁGYI TIBOR[1], KARDOS JULIANNA[2], EMRI ZSUZSA[2]

[1]Department of Physiology, University of Medicine and Pharmacy, Targu Mureş Romania

[2]Department of Neurochemistry, Chemical Research Center, Hungarian Academy of Sciences, Budapest, Hungary

Somatostatine, a widely distributed neuropeptide in the brain and especially in the hippocampus, is associated with seizures both in animal models and human temporal lobe epilepsy. It has been shown that somatostatine containing neurons are sensitive to seizure induced death and it is hypothesized that the loss of somatostatine function in the hippocampus could contribute to epileptogenesis. This effect appears to be related in rats and humans to somatostatine receptor subtype 2.We used the in vitro low magnesium model to induce seizure like events in sections from juvenile rat hippocampus. We recorded from area CA3 of the rat hippocampus extracellular field potentials during interictal, preictal and ictal periods of seizures. Than we applied somatostatine in order to observe its effect on seizure like activity and interictal spiking. Somatostatine decreased the length of low magnesium induced seizures by 18.4±12.9% and increased the interval between them by 14.1±17.2% when compared to control. This effect was reversible by washout. We also studied interictal spiking patterns during seizure like events with and without somatostatine. Because the somatostatine neurons are clearly compromised in post-seizure hippocampus and somatostatine appears to have an important antiepileptic effect one can rationalize for the utilization of this drug or its derivates for treating temporal lobe epilepsy. However several caveats are to be considered such as receptor desensitization or disruption of the effect of endogenous somatostatine on the central nervous system.

112. THE ULTRASOUND EVALUATION OF THE OSTEOPOROSIS RISK IN YOUNG ADULTS WITH AND WITHOUT MENTHAL DISABILITIES

RALUCA PAPACOCEA[1], ANCA BADARAU[1], T.PAPACOCEA[2], CATALINA CIORNEI[1], MARIANA ARTINO[1], MAGDA BURAGA[3], IOANA STEFANESCU[3]

[1]Physiology Dept. I Carol Davila University of Medicine and Pharmacy

[2]Sf. Pantelimon Emergency Hospital Bucharest

[3]Physiology Dept. II Carol Davila University of Medicine and Pharmacy

Osteoporosis occurs as a consequence of loss of bone mass, usually

attributed to age, and the decreased quality of the micro-architecture of bone, which results in a bone which is more susceptible to fracture and its incidence continuously increasing. The study objective was to elucidate if young sedentary adults and individuals with menthal disabilities - Down's syndrome - (DS) experience a different risk of osteoporosis. The bone mineral density was measured in 30 sedentary young adults and 42 young adults with menthal disabilitation, versus 22 control subjects of both genders. Bone densitometry results were determined using the Sahara Clinical Bone sonometer and were reported in terms of quantitative scores that compare this result to reference ranges for peers of the same sex and ethnicity. We used the T-score which is defined as the difference between the individual patient's results and the mean results obtained in a young adult population, expressed in units of the young adult population standard deviation. The Sahara equipment measured the speed of sound (SOS, in m/sec) and the broadband ultrasonica (BUA, in dB/MHz) of an ultrasound beam passed through the heel. The SOS and BUA results are combined linearly to obtain the quantitative. Ultrasound Index (QUI), the same type of result reported by x-ray based bone densitometry systems. The obtained results showed a slightly decreased bone density in both young sedentary adults with or without menthal disabilities versus control, but only the group with menthal disabilities showed a significant reduction (p0,019).

Key words: osteoporosis, ultrasound, bone density

113. THE EFFECT OF ALLIUM OBLIQUUM ON NITRIC OXIDE SYNTHESIS AND OXIDATIVE STRESS IN ACUTE EXPERIMENTAL INFLAMMATION

PARVU ALINA ELENA, PARVU MARCEL, VLASE LAURIAN

"Iuliu Haţieganu" University of Medicine and Pharmacy

Allium obliquum is a very rare perennial which is encountered in Romania in a single place, on limestone rocks in Turda Gorges. It has been shown that Allium species have high concentration of total flavonoids, high content of carotenoids and chlorophylls. Therefore in this study we investigated the effects of A. obliquum extract on nitric oxide synthesis and oxidative status in an acute experimental inflammation. We used 6 groups of Wistar-Bratislawa male rats with turpentine oil-induced inflammation: a positive inflammation control with no treatment, three groups treated with diffrent A. obliquum extract concentrations, a group treated with with L-NAME, and a group treated with trolox. NO synthesis was evaluated by serum nitrites and nitrates measurement, and oxidative stress was evaluated by total oxidative status and total antioxidative reactivity determination. The results showed that: Allium obliquum reduce nitric oxide synthesis and oxidative stress in a dose dependent way; the inhibitory effect of A. obliquum on NO synthesis was smaller than that of L-NAME; the antioxidative effect was smaller that that of trolox. In conclusion, in acute experimental inflammation A. obliquum extract had an antiinflammatory effect due to the inhibitory action on NO synthesis and oxidative stress.

114.STRUCTURE AND ACTIONS OF DOTHELINS

CRISTINA PETRICA[1], DANIELA BADEA[2], M. BADEA[3], ANDREEA PETRICA[4]

[1]Department of Pathophysiology, University of Medicine and Pharmacy of Craiova
[2]Department of Physiology, University of Medicine and Pharmacy of Craiova
[3]Department of Hematology, University of Medicine and Pharmacy of Craiova
[4]Resident doctor, University of Medicine and Pharmacy of Craiova

Three isoforms of endothelins have been identified: ET-1, ET-2 and ET-3. Each isoform is a product of a different gene and is synthesized as a prepro form that is processed to a propeptide and then to the mature peptide. Each endothelin is a 21-amino-acid peptide containing two disulfide bridges. Endothelins are widely distributed in the body. ET-1 is a predominant endothelin secreted by the vascular endothelium. It is also produced by neurons and astrocytes in the central nervous system and in endometrial, renal mesangial, Sertoli and other cells. ET-2 is produced predominantly in the kidneys and intestine, whereas ET-3 is found in highest concentration in the brain but is also present in the gastrointestinal tract, lungs, and kidneys. The expression of the ET-1 gene is increased by growth factors and cytokines, including transforming growth factor-β (TGF-β) and interleukin-1 (IL-1), vasoactive substances including angiotensin II and vasopressin and mechanical stress. Expression is inhibited by nitric oxid, prostacyclin and atrial natriuretic peptide. Endothelins exert widespread actions in the body. They cause dose-dependent vasoconstriction in most vascular beds. Intravenous administration of ET-1 causes a rapid and transient decrease in arterial blood pressure followed by a prolonged increase. Endothelins are potent coronary vasoconstrictors. They act on the kidney to cause vasoconstriction and decrease glomerular filtration rate and sodium and water excretion. In the respiratory system, they cause potent contraction of tracheal and bronchial smooth muscle. They exert a variety of actions on the central and peripheral nervous system, the gastrointestinal system, the liver, the urinary tract, the skin.

115. THE METABOLISM OF ARACHIDONIC ACID BY 5-LIPOXYGENASE

CRISTINA PETRICA[1], DANIELA BADEA[2], M. BADEA[3], ANDREEA PETRICA[4]

[1]Department of Pathophysiology, University of Medicine and Pharmacy of Craiova
[2]Department of Physiology, University of Medicine and Pharmacy of Craiova
[3]Department of Hematology, University of Medicine and Pharmacy of Craiova
[4]Resident doctor, University of Medicine and Pharmacy of Craiova

The metabolism of arachidonic acid by the 5-, 12-, and 15 lipoxigenases (LOX) results in the production of hydroperoxyeicosatetraenoic acid (HPETEs), which rapidly convert to hydroxy derivatives (HETEs) and leukotrienes. The most actively investigated leukotriens are those produced by the 5-lipoxigenase present in inflammatory cells (polymorphonuclear leukocytes-PMN, basophils, mast cells, eosinophils, macrophages). Stimulation of these cells elevates intracellular Ca 2+ and releases arachidonate; incorporation of molecular oxygen by 5-LOX, in association with 5-LOX-activating protein (FLAP), then yields the unstable epoxide leukotriene A4 (LTA4). This intermediate either converts to the dihydroxy leukotriene B4 (LTB4) or conjugates with glutathione to yield leukotriene C4 (LTC4). LTC4 and LTD4 are potent bronchoconstrictors and are recognized as the primary components of the slow reacting substance

of anaphylaxis (SRA-A) that is secreted in asthma and anaphylaxis. LTA4, the primary product of 5-LOX, can be converted via 12-LOX in platelets to the lipoxins LXA4 and LXB4. Lipoxins have diverse effects on leukocytes, including activation of monocytes and macrophages and inhibition of neutrophil, eosinophil, and lymphocyte activation. Both lipoxin A and lipoxin B inhibit natural killer cell cytotoxicity. The actions of lipoxygenase generate compounds that can regulate specific cellular responses important in inflammation and immunity. Leukotriene B4 (LTB4) is a potent chemoattractant for PMNs, eosinophils and monocytes; LTC4 and LTD4 are potent chemoattractant for eosinophils. At higher concentrations, these leukotrienes also promote eosinophil adherence, degranulation and oxygen radical formation. The leukotrienes have been implicated in the pathogenesis of inflammation, especially in chronic diseases such as asthma and inflammatory bowel disease. PGE2 inhibits the differentiation of B lymphocyte into antibody-secreting plasma cells and depress the humoral antibody response. It also inhibits mitogen-stimulated proliferation of T lymphocytes. PGE2 and TXA2 may also play a role in T-lymphocyte development by regulating apoptosis of immature tymocytes.

116. THE SALIVARY OXIDATIV BALANCE IN PERSONS WITH INCORRECT DENTAL CORONARY RECONSTRUCTION

ADRIANA PIRTE[1], CAMELIA DALAI[1], CIPRIAN DALAI[1], MARIANA MURESAN[1], OTILIA MICLE[1], LIANA MICLE[1], ALINA VENTER[1], LUCIANA DOBJANSCHI [1], ANGELA ANTONESCU[1], MIRCEA DOROFTEIU[2]

[1]Medicine and Pharmacy Faculty Oradea, Romania
[2]University of Medicine and Pharmacy Faculty, Cluj Napoca

Introduction. We have intended to prove the existance of a concordance between the level of the salivary ROS and electromicroscopical changes in the marginal periodont, damaged by inappropriate stomatological interventions. Material and method. There have been studied 65 persons; students in dental medecine at Medicine and Pharmacy Faculty of Oradea. They are all aged between 20–30 years, non-smokers. These were divided in 25 with improper obturations with composite materials and 25 had inappropriate coronary dental reconstruction. At the same time, a group of 15 persons with no restauration has been studied. The oxidativ stress markers utilized were MDA and ceruloplasmin. It also was mesured the concentration of uric acid with enzymatic-colorimetric uricase PAP using reactive Greiner Diagnostic, Germany, on analyzer HITACHI 912. Together with the testing of the oxidative stress for the two groups of subjects ,it have been determined acid and alkaline phosphatase. The total acid phosphatase it has been assesed with the colorimetric method using reactive Randox Laboratories Ltd, Great Britain, cat No AC 1011 on analyzer HITACHI 912, Roche Diagnostic, Switzerland. The alkaline phosphatase was evaluated by the Kinetic optical clorimetric method DGKC, using reactive Greiner Diagnostic, Germany, cat No 105203, on analyzer HITACHI 912, Roche Diagnostic, Switzerland. The prelevations of the pathological and normal tissues have been made from persons aged between 20 and 30 years and studied at the Transmission Electonic Microscope (TEM), type Jeol JEM 1010 from The Centre of Electronic Microscopy of Babes Bolyai University in Cluj-Napoca, Romania. Results. The research made in cases of persons with incorrect obturations with composite materials have shown an insignificant increase of the MDA ($p<0,2$). The persons with inappropriate dental coronary reconstruction had also an obvious increase of the MDA($p<0,2$). In cases of persons with incorrect obturations with composite materials the ceruloplasmine had decreased values compared to those of the control group. ($p<0,001$). Compared to the control group, the ceruloplasmine of the persons with incorrect dental coronary reconstruction was also significantly low ($p<0,001$). It has been measured also the uric acid from the saliva, which fulfills an antioxidant role. In cases of persons with improper obturations with composite materials and those with incorrect coronary reconstruction the values of the uric acid was situated between the limits of the control group ($p>0,1$). The values of the alkaline phosphatase in cases of persons with incorrect obturations with composite materials was decreased insignificanly ($p>0,1$). In cases of persons with improper dental coronary reconstruction there was observed the same variations ($p>0,1$). Persons with incorrect obturations using composite materials had a decreased enzymatic activity of the acid phosphatase as compared to the control group ($p<0,5$). The values of the acid phosphatase in cases of persons with improper coronary reconstruction have been slightly reduced ($p>0,1$). Conclussions.Persons with obturations using composite materials and incorrect dental coronary reconstruction were associated with an increase salivary of ROS.The presence of vascular lessions in the electromicroscopical field, of leucocytes, macrophages, mastocytes, desmosoms, fibroblasts and altered collagen fybres represent microscopic signs of the inflamation. Key words: coronary reconstruction, oxidative stress, ceruloplasmine, saliva.

117. NEUROBIOLOGY OF POST-ISCHEMIC RECUPERATION IN THE AGED MAMMALIAN BRAIN

AUREL POPA-WAGNER[1], CHRISTINE POEHLKE[1], JOSEFINE KAISER[1], ANA-MARIA BUGA[2]

[1]Klinik für Neurologie, Ernst-Moritz-Arndt-University, Greifswald, Germany.
[2]University of Medicine and Pharmacy, Craiova, Romania.

Old age is associated with an enhanced susceptibility to stroke and poor recovery from brain injury, but the cellular processes underlying these phenomena are uncertain. Therefore studying the basic mechanism underlying functional recovery after brain ischemia in aged subjected it is of considerable clinical interest.

Potential mechanisms include neuroinflammation, changes in brain plasticity-promoting factors, unregulated expression of neurotoxic factors, or differences in the generation of scar tissue that impedes the formation of new axons and blood vessels in the infarcted region. Available data indicate that behaviorally, aged rats were more severely impaired by ischemia than were young rats, and they also showed diminished functional recovery. Further, as compared to young rats, aged rats develop a larger infarct area, as well as a necrotic zone characterized by a higher rate of cellular degeneration, and a larger number of apoptotic cells. Both in old and young rats, the early intense proliferative activity following stroke leads to a precipitous formation of growth-inhibiting scar tissue, a phenomemon amplified by the persistent expression of neurotoxic factors. Finally, the regenerative potential of the rat brain is largely preserved up to 20 months of age but gene expression temporally displaced, has a lower amplitude, and is sometimes of relatively short duration. Most interestingly it has recently been shown that the human brain can respond to stroke with increased progenitor proliferation in aged patients opening the possibilities to utilize this intrinsic attempt for

neuroregeneration of the human brain as a potential therapy for stroke. Given the heterogeneity of stroke, a universal anti-inflammatory solution may be a distant prospect, but probably neuroprotective drug cocktails targeting inflammatory pathways in combination with thrombolysis may be a possibility for acute stroke treatment in the future.

118. CONNEXIONS BETWEEN GLYCOSILATED HEMOGLOBIN AND ALBUMINURIA AT A CHIELD WITH DIABETES

LAURA POPESCU[1], BUBUIANU ANCA[1], MIHU MIHAELA[2]

[1]UMF "Carol Davila" Bucuresti Departament of Physiology II
[2]Diabetes and Nutritional Diseases Clinic of Emergency Hospital for Children "M.S. Curie"

The objectiv of the study is to outline kidny micorangiopaty in children, in relation with the variation of the glycosilated hemoglobin. The study was conducted in the Diabetes and Nutritional Diseases Clinic of Emergency Hospital for Children "M.S. Curie", with the supermision of Dr. Mihu Mihaela. The study was made on a lot of 129 children, durind 3 years, whitch we studied the correlation between the levels of glycosilated hemoglobin and the begining of the onset of complications due to kidney microangiopathy trough microalbuminuria. The results showed that in 1/3 of the children that presented warying levels of over 7% of glycosilated hemoglobin, microalbuminuria was installed at a period of an aproximately 2 years, so at 3 years from the onset of the illness, the kidney microangiopaty was alredy installed. Final concolusion: complication can be prevented by maintaining a glycemic balance, and to do so there must be a permanent cooperation between the physician, the familiy and the pacient, in our case with the child.

Key wors: diabetes, glycosilated hemoglobin

119. THE METABOLIC RISK IN PATIENTS WITH SUBCLINICAL AND CLINICAL HYPOTHYROIDISM

PROTOPOP SVETLANA[1], LYSYI LEONID[1], ZOTA LARISA[2], BOBCOVA SVETLANA[1], GANENCO ANDREI[3]

[1]Department of Biochemistry and Clinical Biochemistry, State University of Medicine and Pharmacy "Nicolae Testemițanu", Chişinău, Moldova
[2]Department of Human Physiology, State University of Medicine and Pharmacy "Nicolae Testemițanu", Chişinău, Moldova

Objective: The aim of this study was to explore the hypothesis that subclinical and clinical hypothyroidism is associated with components of the metabolic syndrome. Design and methods: Twenty women with subclinical hypothyroidism (elevated TSH and normal thyroxine levels) and nineteen women with clinical hypothyroidism (elevated TSH and diminished thyroxine levels) were compared to twenty-seven female controls matched for age. None of the patients had been previously treated with thyroxine. In all participants we determined thyroid stimulating hormone (TSH), free triiodthyronine and free thyroxine levels, lipid and lipoprotein concentrations, fasting glucose and insulin levels, homeostasis model assessment of insulin resistance (HOMA-IR), we measured waist circumference, systolic and diastolic blood pressure. The metabolic syndrome was defined according to the International Diabetes Federation criteria. Results: The patients with subclinical and clinical hypothyroidism are at greater risk of metabolic syndrome than the healthy subjects (relative risk, 2,43; 95% confidence interval, 0,99-5,95, and relative risk, 1,99; 95% confidence interval, 0,75-5,29, respectively). In the hypothyroid patients insulin positively correlated with TSH (r0,33, p<0,05) and negatively correlated with free triiodthyronine (r-0,42, p<0,01). The thyroid function tests were associated only with high-density lipoprotein cholesterol levels (r0,34, p<0,05 for TSH, r-0,32, p<0,05 for free triiodthyronine and r-0,49, p<0,01 for free thyroxine). The HOMA-IR positively correlated with waist circumference (r0,68, p<0,001), triglyceride levels (r0,61, p<0,001), systolic blood pressure (r0,48, p<0,01) and diastolic blood pressure (r0,38, p<0,05).Conclusion: Subclinical and clinical hypothyroidism is associated with insulin resistance that might contribute to the development of the metabolic syndrome found in these conditions.

Key words: hypothyroidism, metabolic syndrome, insulin resistance

120. IMPORTANCE OF NERVOUS AND ENDOCRINE FACTORS IN DETERMINATION OF SOME ELECTROCARDIOGRAPHIC MODIFICATIONS IN WOMEN AFTER 50 YEARS

G. RACA, OANA MARIA RICA

University of Medicine and Pharmacy of Craiova

Statistical and clinical studies (The Framingham Study, American Heart Association–AHA) show an increase risk for cardiovascular diseases, especially Coronary Heart Diseases (CHD) and Hypertension in menopausal women, after 50 years. It is accepted that decrease of oestrogens secretion and loss of their protection is a main factor which cause this phenomenon. Thus menopause is considered a major risk factor for CHD. Electrocardiogram (ECG) in these women shows nonspecific modifications, such as modification of repolarization phase, extrasystoles, tachycardia or bradycardia, branch bundle block, left ventricular hypertrophy. What is signification of these ECG modifications, these are functional modification or CHD manifestations? Electrocardiogram was recorded in women with ages 40-65 years, in rest condition and after betablocants administration. These women had anterior good health, without cardiovascular diseases in their life, but in moment examination in some postmenopausal women was presented some risk factors such as increase vegetative tonus, various stress conditions, hypercholesterolemia, diabetes, hypertension, smoking. Results show that 40,5 % of postmenopausal women had various and nonspecific ECG modifications, such as modifications of repolarization phase, sinusal tachycardia >100 beats/ minute, sinusal bradycardia 50-60 beats/ minute, atrial or ventricular extrasystoles isolated or 2-4 grouped, low amplitude or absence P-waves, elongation of Q–T interval, first degree atrioventricular block, left or right minor branch bundle block, left ventricular hypertrophy. These modifications were remarked in two or more leads with aleatory distribution, without certain coronary localization. Modifications of repolarization phase were detected in 30,2 % of women and consisted in depression of ST- segment ≥1mm (horizontal, downsloping or upsloping), plate, ample, peaked T- waves, inversion of T- waves, elevation of U- waves. In some women was associated two or three modifications, more frequently ST–T modifications with extrasystoles and tachycardia. Administration of betablocants in women with modifications of repolarization phase and extrasystoles are

redressed ECG route in 53,4 % and no changed ECG route in 46,6 %. In 45% of these women, there are some clinical manifestations, such as pain in heart area, sometimes anginous pain, palpitation, tachycardia or bradycardia, hypertension etc., existed a positive correlation with ECG modifications. In conclusion, in postmenopausal women appear nonspecific ECG modifications especially in repolarization phase. These modifications may be caused by increase vegetative tonus and by electrolytes disturbances, but may show a coronary ischaemia when is associated with other ECG modifications (extrsystoles, tachycardia etc.) and with clinical manifestations such as heart pain, various risk factors etc.

121. THE EFFECT OF NOISE ON URINARY CATECHOLAMINES FOR MARITIME NAVIGATING PERSONNEL

NINELA RADULESCU, ILEANA ION, CEAMITRU N., CECILIA ADUMITRESI, CRISTINA FARCAS, CARMEN CIUFU, LOREDANA HANZU-PAZARA

Physiology and Pathophysiology Department, Faculty of Medicine, "Ovidius" University, Constanta

The aim of the study is to establish whether the exposure to loud noise (greater than 87 dB) onboard naval ships is able to modify urinary catecholamins excretion. The psychological characteristics of personality of the subjects play an important role in the stress response. The noxious effect of noise level have been studied on two groups of subjects: engine crew and deck crew, taking into account the age, the length of sea service, periodicity of embarkments and the psyhical and neuropsychic stress. Samples were collected before leaving and after returning from the sea voyage. One further urine sample was collected after two monthes of rest . Our study shows that exposure to noise induces significant increases of urinary catecholamines ($p<0,001$). The analysis of data showed statistically significant differences between the urinary catecholamines values after noise exposure, higher among the engine crew than among the deck crew.

Key words: noise, catechomanines, maritime navigating personnel

122. THE SYNTHESIS OF BLOOD GLUCOSE CONTROL SYSTEM BY USING ARTIFICIAL NEURAL NETWORKS

IULIA ALEXANDRA RISTEA, LILIANA IONESCU, IONELA IANCU

University of Medicine and Pharmacy of Craiova, Faculty of Medicine

We consider the neural networks an attractive solution for the modeling of physiological control systems modeling and simulation. Neural networks are capable of discovering hidden dependency starting only from the available database, without imposing modeling restrictions. After a successful learning period, neural networks tolerate in a remarkable way the differences (sometimes appreciable) between the data applied at the entering of the operating process and the ones seen in the training phase. This is a consequence of the so-called generalization capacity of neural networks. This capacity expresses the neural network's capability to offer a correct response, even if at the entry versions are incomplete, noisy or distorted information from the training phase. Using experimental data resulted after laboratory analysis, the authors have realized feed-forward neural networks for the modeling of the glycaemia control system. After the learning process, the network is capable of providing the insulin concentration in the blood (when glycaemia is known) and anticipate the glycaemia values when the amount of insulin taken in is known. We mention, that even if the network sustains its structure, it must be trained in particular for every individual.

Key words: blood glucose control, mathematical model, artificial neural network

123. EVALUATION OF PATIENTS WITH ADVANCED STAGE CHRONIC OBSTRUCTIVE PULMONARY DISEASE

CODRUȚ ROMAN[1], VOICU TUDORACHE[2], GEORGETA MIHALAŞ[1], LEONARD MADA[3], TEODORA ROMAN[2], CRISTIAN OANCEA[2]

[1]Department of Physiology, University of Medicine „Victor Babeş" Timişoara
[2]Department of Lung Diseases, University of Medicine „Victor Babeş" Timişoara
[3]Department of Medical Informatics, University of Medicine „Victor Babeş" Timişoara

Introduction: Chronic Obstructive Pulmonary Disease(COPD) is the most frequent lung illness, with increasing morbidity. It has a delayed clinical simptomatology, which correlates often with advanced stages of the disease. Materials and methods: We have investigated 100 in-care patients, 41 with stage III COPD and 59 with stage IV, of which 11 women and 89 men. The average age was 61 years. Average FEV1 value was 37,84% for stage III disease and 25,42% for stage IV disease. We evaluated the patients by forced spirometry, maximal inspiratory pressure(MIP), maximal expiratory pressure(MEP), nutritional staus and oxigen saturation(SaO2). We focused on these methods because they are easy to be determined and are accurate for the evaluation of patients status. Results: Decreases in MIP and MEP were correlated with FEV1 and FVC, sex and muscle mass. SaO2 was decreased only in stage IV (average 87%). Conclusions: Worsening of simptomatology and decreased physical capacity favor sedentary state and anxiety, which lead to physical and mental deconditioning with decrease in quality of life We wanted an efficient evaluation of patients with advanced COPD in order to obtain a better disease management through medication, oxigen therapy and pulmonary rehabilitation.

124. CROSS-CORRELATION BETWEEN TWO SURFACE EMG SIGNALS FROM THE SAME MUSCLE IN MAXIMAL CONTRACTION

F. ROMANESCU[1], A. NEŞTIANU[2], P. BADEA[3], G. POPESCU[4], V. NEŞTIANU[1]

1. Physiology, University of Medicine and Pharmacy Craiova
2. Physiopathology, University of Medicine and Pharmacy Craiova

3. Biostatistics, University of Medicine and Pharmacy Craiova
4. Informatics Bureau, University of Medicine and Pharmacy Craiova

The purpose of the study was to evaluate the cross-correlation between two channels of surface EMG (SEMG) on the same muscle in activity. The study was conducted on a lot of 16 male subjects which performed sustained isometric maximal contraction of the hand fingers flexors. SEMG was recorded on two channels, the electrodes being placed on two parallel zones above the same muscle. The cross-correlation analysis was performed between simultaneously recorded samples on each channel of the SEMG filtered signal on successive periods of 500 ms, resulting a correlation coefficient (R) on each 500 ms of contraction. We applied a linear regression equation on all R values from 500 to 500 ms., to evaluate the evolution of the correlation between the two channels. The slope of regression line was slightly increasing (slope = 0.0000948) during maximal voluntary contraction. These results indicate that cross-correlation of two surface EMG channels recording from the same muscle is increasing during maximal voluntary contraction, a fact that can be partially explained by increasing of the synchronization between motor units.

Keywords: electromyography, muscle fatigue, isometric contraction.

125. THE INFLUENCE OF LONG-TERM HEMODYALISIS ON NON-SPECIFIC AND SPECIFIC BODY DEFENSE MECHANISMS

ALEXANDRA FLORIANA ROSU[1], LUCICA ROSU[1], O. ZLATIAN[1], CRISTIANA VADUVA[2], DANIELA BADEA[3]

[1]UMF Craiova – Department of Microbiology
[2]Emercency Hospital of Craiova – Department of Hemodyalisis
[3]UMF Craiova – Department of Physiology

Introduction. Infections are the second cause of death in patients undergoing long-term hemodyalisis, after cardiovascular diseases. The hemodyalisis procedure, due to the biological incompatible membranes and impurities in dyalisis fluid accomplished by elevated seric levels of urea, performs an aggression against non-specific and specific body defense mechanisms. Material and method. We studied a lot composed of 80 patients with chronic renal failure included in hemodyalisis program, in witch it was evaluated the renal function, hepatic metabolism, state of nutrition correlated with hematological indices, acute inflammation markers (fibrinogen, C reactive protein, erythrocyte sedimentation rate) and serum complement dosing. The blood tests established hemoglobin levels and percents of the leucocytes. We established the percent of T total and helper lymphocytes by rosette tests. The results obtained showed alterations of renal function (increased levels of urea, creatinine and uric acid), modifications of non-specific and specific defense mechanisms (activation of serum complement, increasing of acute inflammation markers, anemia, neutropenia, monocytosis, lymphopenia by decreasing T total and helper lymphocytes). In several cases the liver function was also altered. Conclusions. Modifications of the investigated humoral and cellular parameters are correlated with hemodyalisis factors. In order to reduce the negative effects of hemodyalisis procedure on non-specific and specific body defense mechanisms it is advisable using a bio-compatible dialysis membrane and high purity dialysis fluid.

Key words: hemodyalisis, non-specific and specific body defense mechanisms, renal function.

126. INFLUENZA VIRUSES INFLUENCE ON HUMAN LYMFOCYTES

ALEXANDRA FLORIANA ROŞU, LUCICA ROŞU, O. ZLATIAN, DANIELA BADEA, T. DĂIANU, MARIA CRISTINA BEZNĂ

UMF Craiova, Department of Microbiology

Introduction. Because influenza viruses can infect the immune cells, therefore diminishing the host ability to generate immune responses, it is necessary an understanding of interrelations between the components of immune system, in order to apply the immune prophylaxis on scientific bases. Material şi metode. We investigated the humoral immune response to the infection with circulating influenza viruses, on a lot composed of 250 children aged between 1-15 years, hospitalized for acute infections of upper and lower respiratory tract, in pediatrics clinic of Clinical Emergency Hospital of Craiova, between 1.10.2006-1.10.2008. In order to confirm the influenza infection we used the hemagglutination inhibition for testing the presence in the blood of specific antibodies against influenza A or B viruses which circulated in the studied period. The cellular immunity was investigated at 50 children with more severe symptoms selected from this lot. We used the methods: normal and high affinity E rosette formation, blastic transformation of lymphocytes test and macrophage inhibition test. The results obtained shows the effects of influenza viruses influence on human lymphocytes (both numerically and functionally), on the humoral as well as on the cellular immune response against antigenic variant of infecting influenza virus. Conclusions: vaccination against influenza viruses is the specific method of immune prophylaxis of influenza infections.

Keywords: influenza, cellular immunity, immune depression, lymphocyte.

127. THE INFLUENCE OF BODY COMPOSITION OVER FOOTBALL PLAYERS EFFORT CAPACITY

LIGIA RUSU[1,2], DENISA ENESCU BIERU[1], MIRELA LUCIA CĂLINA[1,2], ELENA TAINA AVRAMESCU[1,2], FLORIN ROMANESCU[3]

[1]Faculty of Physical Education and Sport Craiova, University of Craiova, Romania
[2]Sport Polyclinic Craiova, Romania
[3]University of Medicine and Pharmacy Craiova - Department of Physiology, Romania

Introduction

The body composition is an important parameter that evaluates sportsmen´ physical training level and establishes their capacity performance.

Objective

The aim of our study was to compare on the one hand the body fat and bone mineral density during pre-season (first period) and after the off season break (second period) at professional football players and on the other hand the values that had been obtained to the ones of non-athletic young males, thus, to create a profile of physical features in professional football players.

Material and method

The study was made on twenty two male athletes with an average age of 20 years from a professional football school which underwent for a period of one year, the determination of body fat mass and bone mineral

density (BMD) during pre-season and after the off season breaks.

We used the skin fold thickness over five sites to measure the body fat mass and DEXA (dual energy X-ray absorption) to assess the BMD.

Results

The skin fold thickness measurements revealed that body fat mass was higher immediately following the off season break (11,4%) than pre-season (10,2 %).

Bone mineral density average value was higher (1,38g/cm^2) in the first period than in the second one (1,33g/cm^2).

The BMD average in football players was well above non-athletic young males´ average (1.401g/cm^2 compared to 1.23g/cm^2), while the body fat mass at the two groups was not significantly changed.

Conclusions

Physical activity influences positively the body composition, implicitly the effort capacity.

Key words: football players, body composition, performance.

128. AGE INDUCED AMPLIFICATION OF THE ALLOSTATIC LOAD DETERMINING SYNAPSE INHIBITION?

A.SAULEA, V.MINCIUNA, V.KOBETS, B.MELNIC, S.FABRIKANTOVA

Republican Center of Medico-Social Rehabilitation, Republic of Moldova

Aim: Estimation of the central nervous structures motor activity during age induced amplification of the allostatic load.

Materials and methods. 45 old persons (69.8±1.21 years) were enrolled in study. The nervous system motor activity was estimated analyzing the physiological tremor of the distal hand phalanx. The spectral energy of tremor, mean frequency of oscillations and their density in range of: 0-3.0 Hz; 4.0-6.9 Hz; 7.0-12.9 Hz; 13.0-18.9 Hz and 19.0-50.0 Hz have been assayed. Results. In rest physiologic tremor spectral energy of tremor was 310.7±623.28 ms2, mean frequency of oscillations – 8.2±0.34 Hz and density -24.8±1.67 in 0-50 Hz. The mechanic reflex activation led to an increase of spectral energy of tremor by l.6fold due to density elevation by 4.6fold in high frequencies (19.0-50.0 Hz). The density modulated mainly by central oscillator and spinal alpha-gamma loop decreased: by 2.6fold in range 4.0-6.9 Hz and by l.8fold in 7.0-12.9 Hz. Nonmodification of indices in range of 13.0-18.9 Hz may underline that this frequency is simultaneously modulated by neuronal and mechanic hand activity. The significant increase of density in right part of frequency range has contributed to mean frequency of oscillations rise by 5.3 Hz. The vestibular apparatus stimulation induced a tendency of energy indices diminution during lsl min after test. It was a repercussion of decrease by l.4 fold of the density in range of 7-13 Hz and by 1.3 fold in range of 14-18 Hz. Conclusions. The less increase or decrease of the energy indices and of oscillation density in frequency intervals modulated by central oscillator in old persons presumably indicate in favor of a synaptic transmission inhibition due to a durable activation of some neuro-humoral processes in the allostatic load amplification and to an information transmembranic exchanging (receptors desensitization, “uncoupling” and “down regulation” phenomena).

Key words: physiological tremor, allostatic load.

129. THE EVALUATION OF THE PREDICTORS OF PROGRESSION FROM MILD COGNITIVE IMPAIRMENT TO ALZHEIMER’S DISEASE

D.I.SCOREI[1], M.C MITRAN[1], O.ALEXANDRU[2], M.BĂNICIOIU[1], A.M.GEORGESCU[4], L.TĂTĂRANU[1], V.CIUBOTARU[3], A.DRICU[5]

[1]Department of Psychiatry, Neuropsychiatry Hospital, University of Medicine and Pharmacy, Craiova, Romania
[2]Department of Neurology, Neuropsychiatry Hospital, University of Medicine and Pharmacy, Craiova, Romania
[3]Department of Neurosurgery, Bagdasar-Arseni Hospital, Bucharest, Romania
[4]Medico Science SRL, Bucharest , Romania
[5]Department of Biochemistry, University of Medicine and Pharmacy, Craiova, Romania

Objective: The main purpose of our work was to determine the occurrence of neuropsychiatric symptomatology and its relation to future development of Alzheimer’s disease (AD) in persons with and without mild cognitive impairment (MCI). Method: We followed 185 persons with no cognitive impairment and 47 persons with MCI (amnestic and multidomain), ages 70-80 , for 3 years. Three types of neuropsychiatric symptoms were assessed at baseline: mood-related depressive symptoms, motivation-related depressive symptoms, and anxiety-related symptomatology. At 3-year follow-up AD was diagnosed according to Diagnostic and Statistical Manual for Mental Disorders-III-R criteria. Results: Psychiatric symptoms occurred more frequently in persons with MCI (36.2% mood, 36.2% motivation, and 46.8% anxiety symptoms) than in cognitively intact elderly individuals (18.4% mood, 13.0% motivation, and 24.9% anxiety). Of persons with both MCI and anxiety symptoms, 83.3% developed AD over follow-up versus 6.1% of cognitively intact persons and 40.9% persons who had MCI without anxiety. Among persons with MCI, the 3-year risk of progressing to AD almost doubled with each anxiety symptom (relative risk [RR] 1.8 [1.2 to 2.7] per symptom). Conversely, among cognitively intact subjects, only symptoms of depressive mood were related to AD development (RR 1.9 [1.0 to 3.6] per symptom). Conclusions: The predictive validity of mild cognitive impairment (MCI) for identifying future Alzheimer’s disease (AD) cases is improved in the presence of anxiety symptoms. Mood-related depressive symptoms (dysphoria, suicidal ideation, etc.) in preclinical AD might be related to the neuropathologic mechanism, as they appear preclinically in persons both with and without MCI.

130. EFFECTS OF AORTIC CONSTRICTION ON THE ELECTRICAL AND MECHANICAL ACTIVITY OF RAT PAPILLARY MUSCLE

SCRIDON ALINA[1], SERBAN R.C.[2], PERIAN M.[1], BARBAT GH.[1], DOBREANU D.[1]

[1]Department of Physiology, University of Medicine and Pharmacy, Targu Mures, Romania
[2]Cardiology Clinic, Institute of Cardiovascular Diseases and Transplant, Targu Mures

Background: As response to a variety of mechanical, hemodynamic,

hormonal stimuli, the myocardium adapts through the hypertrophy of individual muscle cells. The mechanisms involved in pathological left ventricular hypertrophy (LVH) are far from clear. The results of some studies were interpreted as suggesting that excitation-contraction coupling could be altered in this context. Aim: The purpose of this study was to understand the electro-mechanical mechanisms involved in pathological LVH. Methods: Thirty Wistar rats were randomly assigned into two groups: control group and the group with aortic constriction. The study group was subjected to surgical intervention in order to accomplish the abdominal aortic constriction. After 4 weeks, both trained and sedentary rats were anesthetized and then sacrificed. Several electrical and mechanical parameters were measured. To investigate the possible role of an alteration in excitation-contraction coupling in cardiac hypertrophy, we compared simultaneously recorded mechanical and electrical activity of normal and hypertrophied papillary muscles. Results: Heart weights was significantly greater for the animals with aortic constriction by 38.7%, p<0,0001. The action potential (AP) recorded from the operated rats was substantially longer than that recorded from the control group: APD90 (136.9±0.4msec vs 75.4±1.1msec, p<0,0001), APD75 (78.1±0.5msec vs 45.4±0.7msec, p<0,0001), APD50 (26.1±0.6msec vs 21.1±0.6msec, p<0,0001) and APD25 (14.4±0.4msec vs 13.1±0.8msec, p<0,0001). The amplitude of contraction was greater for the animals with aortic constriction (880.1±1.7mN vs 485.1±2.3mN, p<0,0001), same as TAC (105.1±0.2msec vs 126.1±2.8msec, p<0,0001) and T1/2R (220.1±1.4msec vs 126.1±2.8msec, p<0,0001).Conclusions: For the operated rats we obtained a significant prolongation of all AP phases. Still, the most important prolongation was based on the changes in the repolarization. This changes could explain the occurrence of cardiac arrhythmias in the presence of maladaptive LVH. The longer duration of contraction in rats with LVH may be related to the longer APD observed in hypertrophied muscles. Since the maximum tension development in rat ventricular muscle is affected very little by depolarization lasting beyond a certain limit, it is possible that once APD reaches that certain length, further lengthening of the AP does not influence tension development. This could account for the absence of correlation between APD and parameters of contraction in hypertrophied muscles.

131. ENDOTHELIUM-DEPENDENT VASODILATION: MEHANISMS FOR FUNCTIONS AND DYSFUNCTIONS

SERBAN IL, COVIC AC, BILD W, SERBAN DN

"Grigore T. Popa" University of Medicine and Pharmacy, Iasi, Romania

Endothelium-dependent relaxation (EDR) of vascular smooth muscle (VSM) is based on complex signaling. Our goal is to analyze how such signals are used in EDR induced by vasoactive agents, and in flow-dependent and propagated vasodilation, while mechanisms vary with species, age, sex, hormonal status, vascular bed/caliber, the vasodilating factor and vascular tone, oxidative stress and pathological conditions. The major relaxing factors derived from endothelium, e.g. nitric oxide (NO), prostacyclin and hyperpolarizing factors (EDHF: epoxy-eicosatrienoic acids, anandamide, K+, H2O2, natriuretic peptide C) have multiple actions, but all induce VSM hyperpolarization by activating K+ channels, thus limiting influx of activator Ca2+ through L-type channels. Moreover, membrane potential changes propagate in vascular walls via gap junctions. We review elements of progress in understanding the mechanisms of endothelial functions and dysfunctions, recently dicussed together by contributors in the field, as follows: intercellular hyperpolarization and vasodilation (Garland CJ); divergent roles for Ca-dependent K-channel types (De Wit C); TRP channels in cardiovascular function (Nilius B), molecular organization of store-operated calcium channels (Barritt GJ, Serban DN); heterogeneity of calcium responses to ACh in endothelial cells (Beny JL); intraluminal pressure, endothelins, COX isoforms, and functions of vascular angiotensin receptors (Koller A, Bild W); NOX homologues, reactive oxygen species, and vascular biology (Touyz RM); impairment of EDR by oxidative stress (Forstermann U); variable profile of mechanisms that ensure endothelium-dependent vasodilation in normal conditions and diabetes (Triggle CR, Serban IL); endothelial dysfunction, stiffness and calcifications as arterial changes in renal disease (Zoccali C, Covic AC). Supported by Romanian Grant PN2-IDEI-PCE/ID-1156/2007-2010.

Key words: endothelium, ion channels, angiotensin, oxidative stress, chronic renal disease.

132.CHANGES OF THE FIBRIN CLOT'S RESISTANCE TO BREAKAGE IN DIABETIC PATIENTS WITH ISCHEMIC STROKE

VERONICA SFREDEL[1], SUZANA DANOIU[2], MADALINA MANEA[3], ANDRA POROJNICU[4], SMARANDA MITRAN[1], A.T. BALSEANU[1], H.TRAILA[5]

[1]Department of Physiology, University of Medicine and Pharmacy, Craiova
[2]Department of Physiopatholgy, University of Medicine and Pharmacy, Craiova
[3]University of Medicine and Pharmacy, Craiova
[4]Student - University of Medicine and Pharmacy, Craiova
[5]Pitesti University

Object: The object of this work was to check if in diabetic patients with ischemic stroke,there are other qualitative alterations of the fibrin clot ,besides the quantitative changes of the factors involved in the hemostasis. We decided to use the "fibrinoresistometric" method in order to investigate one qualitative parameter of the fibrin clot, namely the fibrin clot's resistance or elasticity.

Material and methods: We determined the fibrin clot's resistance to breakage at 21 diabetic patients(21 males,10 females) who suffered from ischemic stroke.These measurements were performed on venous integral blood in the first 60 minutes after the brain attack was diagnosed. In parallel we investigated the fluid clotting equilibrium using the temporal methods: PT (prothrombine time), INR, APTT and the plasma concentration of fibrinogen. The witness group contained 20 diabetic patients with no previous records of ischemic stroke

Results: The normal values for the fibrinoresistometric method were 200-300 FM with an average of 250 FM. .The fibrinoresistometric values of the diabetic patients were 24, 18 % higher than the normal values of the method. At the diabetic patients with ischemic stroke these values were 29.7% higher than those of the witness group.The clot timing had normal values for the two groups of patients and the fibrinogen concentration was significantly risen in the ischemic stroke group.

Conclusions: While the clot temporal tests remain normal the parameter we suggested for the qualitative exploration of the fluid clot equilibrium proves to be much more sensitive indicating the hypercoagulability tendency in the tested patients.

Key-words: fibrinoresistometric, stroke, diabet. CNCSIS PROJECT 562/2008.

133. THE FIBRIN CLOT'S RESISTANCE TO BREAKAGE AT DIABETIC PATIENTS TREATED WITH ASPIRIN.

VERONICA SFREDEL[1], CATALINA PISOSCHI[2], VIORELA ENACHESCU[3], A.T. BALSEANU[1], SMARANDA MITRAN[1], IRINA PREDA[4], ANCA RIZEA[4]

[1]Department of Physiology, University of Medicine and Pharmacy, Craiova
[2]Department of biochemistry, University of Medicine and Pharmacy, Craiova
[3]III[rd] Medical Clinic, Clinical Hospital no.2
[4]Student - University of Medicine and Pharmacy, Craiova

Our purpose is to encounter possible changes in the fibrin clot's resistance to breakage at diabetic patients with cardiac risk that were previously treated with aspirin. Materials and method . We determined the fibrin clot's resistance to breakage at a group of 31 diabetic patients with an average age of 59.35 , 14 females and 17 males, before and during the treatment with aspirin (aspenter) in a dose of 70mg/day. Simultaneously, we investigated the fluid clotting equilibrium using the acknowledged temporal methods: PT (protrombin time), INR, APTT and the plasmatic concentration of fibrinogen.These measurements were performed on venous integral blood. Results. Before starting the antiagregant treatment, the average of the fibrinresistometric values was higher than the normal values (386 FU). The highest values were encountered at the patients suffering from diabetes for more than 10 years. After a week of aspirin administration, the clot's resistance dropped (307 FU – which means a decrease of 20,5%). The highest values were obtained at patients with diabetes for more than 10 years. After a month from the beginning of the treatment, the resistance didn't suffer any significant changes in comparison with the first determination. The INR was insignificantly modified, without reaching the area of hipoclotting. Conclusions. The determination of the fibrin clot's resistance to breakage is useful in establishing the effects of the antiagregant treatment and the necessary doses for reaching the area of normo- or hipoclotting

Key-words: resistance, fibrin clot, antiagregant. CNCSIS PROJECT 562/2008

134. OXIDATIVE STRESS AND BRAIN AGEING

DIANA SFREDEL[1], ANCA RIZEA[2], B. CATALIN[2], MARIA IANCAU[3]

[1]Emergency University Hospital, Bucharest
[2]Students, University of Medicine and Pharmacy, Craiova
[3]Department of Physiology, University of Medicine and Pharmacy, Craiova

Brain ageing is a complex multifactorial process, which assumes that programmed altering of the genetic material is associated with epigenetic factors, which accelerate the process. Through a concealed action, the epigenetic factors cause irreversible damage at different levels of the biologic system starting with the DNA and the gene expression. A major source of DNA lesions is the oxidative stress produces by various reactive species of oxygen. Oxidative deamination, oxidation of the bases from the DNA strands with their consequent break, base alkylation or hydrolysis take place. Furthermore, because of the replication errors, damaged bases are wrongly inserted or omitted from the DNA strands. The damages, which are in the beginning chemical, are expressed by physical anomalies: one or both DNA strands are broken, telomeres are lost, oncogenous residues are attached. Consequently, the structure of the DNA molecule is altered, which can lead to the impossibility to transcript the affected gene. The effects induced by an excess of oxygen and nitrogen reactive species leads to a decrease in cognitive and motor functions, as well as to the onset of degenerative diseases such as Alzheimer dementia, Parkinson syndrome etc. In these conditions, free radicals are not a unique factor, but are most definitely contributing.

Key words: Brain, ageing, oxidative stress.

135. AUTOIMMUNE MANIFESTATIONS IN SYSTEMIC RHEUMATIC DISEASES

ISABELA SILOSI[1], M. COJOCARU[2], OURANIA DRAKOULOGONA[4], V. BICIUSCA[1], ALICE GAMAN[2], IRINA ANCA EREMIA[3], V. PADUREANU[1], SUZANA ROGOZ[1]

[1]University of Medicine and Pharmacy, Craiova
[2]Titu Maiorescu" University, Faculty of Medicine, Bucharest,
[3]Emergency Hospital, Bucharest
[4]Hospital Patra, Greece

Objectives.The aim of this paper is identification of specific autoantibodies in some rheumatic diseases. We studied the incidence of serum antinuclear antibodies (ANA) and specific autoantibodies to nuclear antigens in patients with autoimmune disorders: systemic lupus erythematosus (SLE), mixed connective tissue disease (MCTD), systemic sclerosis (scleroderma) and rheumatoid arthritis(RA) and Sjogren syndrome(SS). Material and methods. Our study included a number of 45 cases with systemic rheumatic diseases. Based on the clinical manifestation the patients were allocated to one of the following five groups: 16 patients with SLE, 7 patients with MCTD, 7 patients with scleroderma,15 patients with RA and 10 patients with SS. ANA were identified by indirect immunofluorescence test. For identification of specific-autoantibodies (anti-ds DNA, Sm, RNP, SS-A(Ro), SS-B(La), Scl-70 was utilized Enzyme Linked Immunosorbent Assay. Results. Incidence of ANA was 96% in SLE, 84% in MCTD, 68% in scleroderma, 39% in RA. The combination ds DNA-RNP-Sm was detected in most patients with SLE. Patients with MCTD had high levels of anti-RNP autoantibodies. Scleroderma patients with severe organ involvement were associated with autoantibodies to enzyme topoisomeraza-1 (anti-Scl-70). Autoantibodies anti-Ro and anti-La are found in patients with SLE, SS and RA. Conclusions. The detection of specific autoantibodies plays an essential role in differential diagnostic of autoimmune diseases. The interpretation of any autoantibody test should be made in the context of a history, clinical examination and interpretation of the potential false positive results.

Key words: autoantibodies, autoimmune disorders, rheumatic diseases.

136. IMMUNE DYSFUNCTIONS IN PATIENTS WITH CONGESTIVE HEART FAILURE

ISABELA SILOSI[1], M.COJOCARU[2], INIMIOARA MIHAELA COJOCARU[3], IRINA ANCA EREMIA[4], C.A. SILOSI[1], RODICA MUSETESCU[1], V. PADUREANU[1], ALICE GAMAN[2]

[1]University of Medicine and Pharmacy, Craiova,
[2]"Titu Maiorescu" University, Faculty of Medicine, Bucharest
[3]"Carol Davila" University of Medicine and Pharmacy, Bucharest
[4]Emergency Hospital, Bucharest

Background and objectives. Immune dysfunctions have been postulated to play a role in the pathophysiology of chronic heart failure. Our study followed the serum evaluation of inflammatory mediators (cytokines, C reactive-protein, C3) in patients with congestive heart failure(CHF), to estabilish the implication in the pathogenesis of the disease and their quality as markers of clinical evolution. Methods: Sera from 20 patients with CHF(belonging to I-IV NYHA functional classes) and from 16 healthy persons were assayed for interleukin-6 (IL-6), IL-10, tumor necrosis factor-α (TNF- α) by using ELISA comercial kits. These cytokines were related to serum levels of component C3 and CRP, wich were determined by single radial immunodifusion technique and ELISA. Results. Levels of cytokines IL-2, IL-6,TNFα were elevated (31,78 ±23,02, 10,88 ±3,70, respectively 9,58 ±5,34 pg/ml) in patients versus the concentrations of healthy persons. The frequence of elevated levels of IL-6 has been correlated with NYHA class. High plasma level of interleukin-6 was an important predictor for prognostic in patients with congestive heart failure. The serum C3 concentrations have been significantly higher in patients compared with control group (t =0,0048), sustained the role of complement system in the development of inflammatory heart disease This study supports the involvement of innate immunity in the pathogenesis of CHF. Our findings suggest that the complement may be added to the list of possible therapeutic targets in CHF and that future studies with specific complement inhibitors might be of interest in this disorder.The serum concentration of C-reactive protein was higher than normal in 13 (65%) patients and directly related to the severity of disease. Conclusions. The investigated markers (cytokines, CRP, C3) should participate at the appearance of lesions and/or at the progression of disease sustained the involvement of these soluble factors in pathogenesis and physiopathology of CHF.

Key words: cytokines, inflammatory mediators, congestive heart failure.

137. PREVALENCE OF CARDIOVASCULAR RISK FACTORS IN PATIENTS WITH IDIOPATHIC DILATED ASYMPTOMATIC CARDIOMYOPATHY

CORINA STEFAN, MARIA IANCAU, COSTIN STEFAN, V. STEFAN

University of Medicine and Pharmacy of Craiova

The main objective of this study is represented by the determining of cardiovascular risk factors and the realizing of an objective image of the cardiovascular prevention in patients with idiopathic dilated asymptomatic cardiomyopathy. The purpose of the present study is to evaluate the measure in which the recommendations concerning cardiovascular prevention to these subjects, as well as the optimizing of a treatment according to the observed risk factors are respected. In the study have been included 130 patients aged between 58-65 years, from which 52% are men. The inclusion criteria has been the lack of any symptom in the patients with dilated cardiomyopathy found after some general periodic check-ups. The evaluation on inclusion and the three consecutive evaluations consisted in a clinical and paraclinic examination. The results of the present study have offered a comprehensive image over the identification measures of the increased high cardiovascular risk factors, in order to remit their influence on the evolution of affections

Key words: cardiovascular risk factors, cardiovascular prevention, asymptomatic.

138. THE IMPORTANCE OF THE EFFORT TEST IN DISCOVERING ISCHEMIC CARDIOPATHY

CORINA STEFAN, MARIA IANCAU, COSTIN STEFAN, LARISA IOANA VASILE, V. STEFAN

University of Medicine and Pharmacy of Craiova

The effort test is widely used both in a diagnostic purpose as well as in the evaluation of cardiovascular affections and involves the registration of an EKG before and after physical effort, both on a roller carpet or using an ergometric bicycle. The test resides in the progressive, standardized increase of the effort, continuously monitoring the EKG, the symptoms and the arterial tension of the patient. Performance is limited and the test is being interrupted when signs of thoracic discomfort appear, suffocation sentiments, dizziness, fatigue, the ST segment under deviation more that 2 mm, the lowering of systolic blood pressure under 10 mm Hg and the appearance of some ventricular tachyarrhythmia. The effort test tends to discover any limitation of effort performances and to establish the relationship between thoracic discomfort and the EKG signs typical to myocardial ischemia. This test may be positive, falsely positive or negative. The negative result does not exclude ischemic cardiac disease.

Key words: diagnostic purpose, evaluation of cardiovascular affections, EKG, arterial tension.

139. PHYSIOPATHOLOGICAL MECHANISMS OF PORTAL HYPERTENSION IN HEPATIC CIRRHOSIS

COSTIN STEFAN, DUMITRU BULUCEA, CORINA STEFAN, LARISA IOANA VASILE, VASILE STEFAN

University of Medicine and Pharmacy of Craiova

It is well known that during hepatic cirrhosis the portal hypertension is a consequence of the increase of intrahepatic vascular resistance associated with splanchnic circulatory hyper kinesis; it relates to an increase of the debit in portal vein territory and to a splanchnic arterial vasodilatation. Portal hypertension is emphasized by the circulatory hyperkinesis. In splanchnic hyperkinesias mechanism are involved a lot of factors more or less associated: vasodilatation caused by the action of some neurohumoral or paracrine substances; portosystemic collateral circulation; hepatocellular disease; hypovolemia. The objective of the present study is to bring informations which emphasize the action of

endothelin in the increase of intrahepatic vascular resistance but also the role of nitrogen monoxide in splanchnic arterial vasodilatation.

140. CLINICAL AND METABOLIC INDICES IN OBESE HYPERTENSIVE PATIENTS IN FUNCTION OF DEGREE OF INSULIN RESISTANCE

STRATULAT SILVIA[1], LYSYI LEONID[1], ZOTA LARISA[2], PROTOPOP SVETLANA[1], AMBROS ALA[1]

[1]Department of Biochemistry and Clinical Biochemistry, State University of Medicine and Pharmacy "Nicolae Testemițanu", Chişinău, Moldova
[2]Department of Human Physiology, State University of Medicine and Pharmacy "Nicolae Testemițanu", Chişinău, Moldova

Objective: The aim of this study was to investigate the clinical and metabolic indices in obese hypertensive patients. Design and methods: Insulin sensitivity was evaluated by Caro's index (glucose to immunoreactive insulin ratio) in basal state and at 2 hours during oral glucose tolerance test (OGTT). 114 obese hypertensive patients were divided into two groups in function of the Caro's index in basal state – 39 insulin resistant patients (Caro's index < 6) and 75 patients with normal insulin sensitivity (Caro's index > 6), and into two groups in function of the Caro's index at 2 hours during OGTT – 92 insulin resistant patients and 22 patients with normal insulin sensitivity. Results: In the insulin resistant patients, evaluated by both criteria, body mass index ($p<0,001$), waist circumference ($p<0,001$), waist to hip ratio ($p<0,001$), systolic blood pressure ($p<0,05$), and diastolic blood pressure ($p<0,01$) were higher than in the patients with normal insulin sensitivity. Also in these patients were detected elevated triglyceride ($p<0,01$), total cholesterol ($p<0,05$), low-density lipoprotein cholesterol levels ($p<0,05$), atherogenic coefficient ($p<0,05$), and diminished high-density lipoprotein cholesterol levels ($p<0,05$), compared with the patients with normal insulin sensitivity. Conclusion: Our study showed that basal Caro's index allows to identify insulin resistance in 34,2% cases, while the investigation of this index at 2 hours during OGTT allows to identify it in 80,7% cases. Our results indicate that insulin resistance substantially contributes to the evolution of the metabolic syndrome and to the atherogenic dyslipidemia found in the obese hypertensive patients.

Key words: insulin resistance, metabolic X syndrome, hypertension, obesity.

141. EXPERIMENTAL STUDY ON THE ANTIOXIDANT EFFECTS OF POLYPHENOLS IN EHRLICH ASCITES CARCINOMA

S.SUCIU[1], A.MURESAN[1], D.DAICOVICIU[1], S.CLICHICI[1], I.D.POSTESCU[2], A.CEBAN[1]

[1]"I.Hatieganu" University of Medicine and Pharmacy, Cluj-Napoca
[2]"I.Chiricuta" Oncological Institute, Cluj-Napoca

Background: Demonstration of the implication oxidative stress in carcinogenesis entail finding of counteract solutions of reactive oxygen species effect. Much studied in last decade have been the natural products possessing antioxidant activities. One aspect of antioxidant administration is that this could affect both antineoplastic efficacy and the development of side effects of anticancer drugs. Aim: The aim of this study was to estimate the antioxidant effects of a red grape seed extract in Ehrlich ascites bearing mice. Materials and methods: Male Swiss mice were used in the experiment: Group I (controls): EAC-bearing mice, Group II: EAC-bearing mice + doxorubicin (dox) i.p. the days +1 and +4;group III: EAC-bearing mice + dox i.p. in the days +1 and +4 and GSE i.p. in the days 0, +1 and +4. Mice were sacrificed in day 10 and blood, liver and heart samples were obtained. Malonaldehyde (MDA) and total sulphhydryl groups (SH) were measured in plasma and organ homogenates. Results: while tending to decrease total SH groups, doxorubicin significantly increased plasma ($p<0.02$), liver ($p<0.01$) and heart homogenate ($p<0.05$) MDA levels as compared to controls. Administration of polyphenols slightly increased the total SH and significantly decreased the intensity of oxidative stress in plasma (($p<0.05$) and liver ($p<0.05$), but not in the heart. Conclusion: the red grape seed extract we used seems to have different antioxidant effects, depending on the organ.

Key words: polyphenols, antioxidant, Ehrlich ascites.

142. SOME IMMUNOLOGICAL ASPECTS OF THE VASCULAR ENDOTHELIUM

ANDREEA ŞTEFĂNUȚI

„Titu Maiorescu University", Bucharest, Medicine Student

The endothelium is the thin layer of cells that line the interior surface of blood vessels, forming an interface between circulating blood in the lumen and the rest of the vessel wall. Complex physiopathological stresses can alter regulatory functions of the endothelium. Adhesion of leukocytes to the endothelium is one of the most important events in the reaction to all forms of injury. Interaction of endothelial cells with activated leukocytes is associated with defective endothelium-dependent vasodilation, increase in vascular permeability and in activation of the coagulation cascade. Many leukocyte products, including reactive oxygen species, superoxide and inflammatory cytokines, impair endothelial function and create the potential for a positive feedback loop between inflammation and coagulation. Research reports have shown a role for these molecules in a number of pathological processes including atherosclerosis, transplant rejection, septic shock, late phase hypersensitivity reactions and reperfusion injury. Through its interactions with leukocytes and other mediators, it is central to the development of inflammatory foci and to lymphocyte trafficking around the body. Tissue injury may arise here as a result of abnormal inflammatory or immune responses. The potential for such injury to contribute to autoimmune disease is discussed, particularly in relation to autoimmune vascular disease. Understanding the central role that endothelial function has in maintaining immune homeostasis has lead to the concept that endothelial dysfunction may also play an important role in autoimmune disease.

Key words: endothelial cells, endothelial dysfunction, immunological aspects.

143. CORRECTION BY ALGAL REMEDIES OF LIPID PEROXIDATION DISTURBANCES CAUSED BY LIVER OSTEOPATHY

OLGA TAGADIUC[1] , GUDUMAC V. [1] , REVA V. [2], RUDIC V. [3]

[1]State University of Medicine and Pharmacy "N.Testemițanu", R. Moldova
[2]State University, R. Moldova
[3]Microbiology Institute of the Academy of Science, R. Moldova

The aim of our research was to assess the efficiency of algal remedies (BioR) in the correction of lipid peroxidation (POL) disturbances in experimental liver osteopathy induced by carbon tetrachloride. In the study were involved 32 rats that were divided in 4 groups – control (1), rats with liver osteopathy induced by carbon tetrachloride administration (2), rats with liver osteopathy treated with different doses of BioR – 1mg/kg (3) and 2 mg/kg (4) body weight. Lipid peroxidation was evaluated by the assay of total oxidant activity, the amounts of initial products of lipid peroxidation – lipid hydroperoxides, dienic conjugates and carbonyl compounds in hexane and hydroalcoholic phases, and of malonic dialdehyde. The antioxidant protection was evaluated by measuring the total antioxidant activity. BioR (1 mg/kg) increased significantly POL in the hexane phase and diminished it in the hydroalcoholic one, in comparison with the rats with liver osteopathy and control one; the amount of malonic dialdehyde and total oxidant activity didn't change, but the total antioxidant activity increased considerably (7%, $p < 0,05$). Double dose of BioR (2 mg/kg) also didn't influence the amount of malonic dialdehyde and total oxidant activity, but increased more significantly the level of total antioxidant activity (11%, $p < 0,0005$) and reduced to normal values the concentrations of the lipid hydroperoxides, dienic conjugates and carbonyl compounds in hexane and hydroalcoholic phases. Thereby, the experimental data shows the indisputable antioxidant effect of the algal remedy BioR in 2 mg/kg dose on bone in experimental liver osteopathy.

Key words: liver osteopathy, lipid peroxidation, algal remedies.

144. ON THE CENTRAL FATIGUE AND NONINVASIVE MONITORING OF NEUROMUSCULAR FATIGUE

MIHAI TARATA

Medical Informatics, University of medicine and pharmacy of Craiova

The paper details the central component of neuromuscular fatigue and provides synthesis of the concept and technical possibilities of monitoring the neuromuscular fatigue via the electromyogram and the mechanomyogram, as signals intimately mirroring muscle activation and contraction mechanisms. The Fast Fourier Transform-based and Wavelet Transform-based techniques are critically analysed, illustrated and discussed, on the international arena and through original work. Author's original technique - the Area/Amplitude Ratio (Raa) - is also comparatively discussed, as an alternative instrument in monitoring the neuromuscular fatigue in the isometric and dynamic contraction - important issue in real life activity - , e.g. work in difficult environments, pilots in mission, difficult work in normal environments, sport.

145. THE AIM OF PARACLINICS EXPLORATIONS IN DIAGNOSTIC AND PROGNOSTIC OF OPHTALMOLOGICAL DISEASE

LILIANA-CERASELA TATARU[1], D. ZAHARIA[2], ANA STRATONE[2]

[1]Department of Oftalmology – Health Authority Galati
[2]The Faculty of Medical Bioengineering – UMF Gr. T. Popa Iasi
[3]Function Testings – UMF Gr. T. Popa Iasi

Summary: In our study, the pacients (males and womans) with diferent ophtalmologicaly disease, age: 58-73 years were clinical examinated: visual acuity (betwen 0,00 and 1,00), intraocular tension (value betwen 8 and 34 mmHg), anterior pole (with cataract, pseudofak, pupilary reactions, open iridocorneal angle), posterior pole (with glaucoma aspect, degenerative and vascular modified). All pacients has normal psychophysical test. The laboratory paraclinical exploration indicate modified of lipidique profile(15%), glucidic profile(12%), and inflamatory aspect(10%) . The record of vizual evoked potentials (VEP) is a posibility for diagnostic and monitoring of ophtalmologic affections, with an EB Neuro Myto, LED, Flash pattern, variabily frequency, the coherent mediation at 500 st, 1-100 frequency band, 500 ms data acquisition equipment. Was detected changes of P100 wave with increase of latency, decrease of amplitude and appearance forms (bifid, biphazic, multiphazic), in dinamic quest using more records. Conclusion: The record of visual evoked potential – P100 wave related with clinical, laboratory and imagistic exploration maybe a approach of diagnostic and prognostic, important to detect and treat ophtalmological disease in early, preclinical stages.

Key words: ophtalmic affections, visual evoked potential, clinical and paraclinical exploration.

146. PROLONGED BED REST AND SERUM BIOCHEMICAL CHANGES IN HUMAN

CARMEN TATU[1], RF TATU[2], CARMEN BUNU[1], DANIELA PUSCASIU[3], FLORINA BOJIN[1], F SCHNEIDER[1]

UMF Victor Babes Timisoara

Introduction: Prolonged immobilization stress induces blood serum biochemical changes. The aim of this study was to evaluate the effect of immobilization stress on some serum biochemistry values. Material and Method: We evaluated 14 patients free from any systemic disease, hospitalized because of lower extremities fractures. Blood was taken from patients after 1, 14, 28 days of bed rest and we determined: glucose concentration, total cholesterol, triglyceride, fats, HDL cholesterol,VLDL cholesterol and plasma cortisol. Results: At the second determination, glucose concentration was significantly increase ($p<0,05$). A significant positive correlation (r 0,68 $p<0,01$), was observed between glucose and cortisol values. Triglyceride were significantly increased ($p<0,05$), HDL cholesterol significantly decrease ($p<0,01$), while VLDL significantly increased ($p<0,05$) after 14 days. A negative correlation (r - 0,81 $p<0,001$) between plasma cortisol and HDL cholesterol was observed. Conclusion: The prolonged bed rest induced modification of the serum biochemistry values. These changes were more pronounced in the active people.

Key words: immobilization, prolonged bed rest, biochemical values.

147. LARGE CONDUCTANCE CALCIUM-DEPENDENT POTASSIUM CHANNELS MEDIATE ENDOTHELIUM-DEPENDENT RELAXATION OF RAT SMALL MESENTERIC ARTERIES IN ALLOXANIC DIABETES

TUCALIUC ES, SERBAN IL, HURJUI L, BRANISTEANU DD, SERBAN DN

"Grigore T. Popa" University of Medicine and Pharmacy, Iasi, Romania

Although streptozotocin is more widely used to induce rodents diabetes resembling the human insulin-dependent one, in this study we used alloxan to induce diabetes in rats, as previously described. Both agents are toxic due to their cellular uptake via GLUT2 transporter and subsequent pancreatic beta cells destruction, which involves alkylation and DNA damage in the case of streptozotocin, but a free-radical-generating cycle in the case of alloxan. Others have shown that renal arteries from rabbits with alloxan diabetes do not present endothelial dysfunction, but participation of K(ATP) to endothelium-dependent relaxation is prevented. Based on our previous observations regarding endothelial dysfunction in this model, here we investigate the EDHF phenomenon and participation of certain potassium channels. We used isometric myography of rings (1 mm wide) from mesenteric artery and its first order branches, obtained from male Wistar rats (200-250 g). We used 0.01 mM glibenclamide to block K(ATP) and 10 mM tetraethylammonium to block BK(Ca). We tested the effect of carbachol (100 nM to 0.1 mM) in phenylephrine-precontracted rings, as global endothelium-dependent relaxation and its EDHF component (in presence of 0.1 mM L-NAME and 0.01 mM indomethacin). Endothelium-dependent relaxation in diabetic animals was reduced, but EDHF was enhanced in diabetic vs. control. Moreover, Endothelium-dependent relaxation in diabetic animals was fully inhibited by TEA, in contrast with healthy controls, where K(ATP) are also involved. K(ATP) are not involved in the EDHF component in either diabetic or control animals. Supported by Romanian Grant CNCSIS-A1222/2007-2008.

Key words: alloxan, diabetes, endothelium, BKCa, resistance arteries.

148. CLINICAL AND ELECTROENCEPHALOGRAPHIC CORRELATIONS IN FOCAL EPILEPSY

VALERICA TUDORICA[1], DENISA PIRSCOVEANU[2], SMARANDA MITRAN[3]

[1]The Neurology Department of the University of Medicine and Pharmacy, Craiova, Romania
[2]The Neurology Department of the University of Medicine and Pharmacy, Craiova, Romania
[3]The Physiology Department of the University of Medicine and Pharmacy, Craiova, Romania

Objectives. The purpose of the study was to detect how much the clinical aspects of focal epilepsy are correlated with the epileptogenic focus revealed by the electroencephalography (EEG). Material and methods. We have studied a number of 30 patients (20 men and 10 women) who met the requirements for being part of the study: a certain diagnostic of focal epilepsy (based on clinical, EEG and imagistic criteria), aged between 20 and 65 years, a period of 5 to10 years of illness. It has been registered the dynamics of EEG to all patients.

Results. Depending of the clinical picture and imagistic investigations, they were diagnosed a number of 8 cases with frontal lobe epilepsy, 3 cases of parietal lobe epilepsy, 3 cases of occipital lobe epilepsy and 16 cases of temporal lobe epilepsy. For 13 cases (43,3%) it was found a discordance between the epileptogenic focus in EEG and the one suggested by the clinical aspects. The epilepsy cases were distributed as follows: 2 of frontal lobe, 1 of parietal lobe, 2 of occipital lobe and 8 of temporal lobe epilepsy. There were encountered two different situations in the patients with temporal lobe epilepsy: they had only one type of seizure but they were tracked down 2 centers in EEG or the patients had seizure polymorphism, but it was found only one focus in EEG. Conclusions. The focal epilepsies involve, in many cases, polymorphism both in EEG aspects and in clinical forms. The right correlation between them may have important therapeutic consequences.

149. STUDY ON THE INFLUENCE OF BROME-BIS-DIMETHYL GLIOXIMATE COBALT (III) HYDRATE ON HEPATIC MARKERS IN EARLY POSTNATAL STAGE PIGS

ŢURCANU ŞT.[1], GULEA A.[2], MARIA BÎRCĂ[2], DIANA BALAN[1]

[1]The State Agricultural University of Moldova
[2]The State University of Moldova

The functional activity of microelements is studied as a result of their inclusion in metalorganic compounds with a well-defined shape and structure. The activity of the microelements is increased significantly when combined with organic substances, in comparison with the ionic state these metals take in an organism. Therefore, our purpose was to study the influence of the studied substance on hepatic functions by measuring several markers of hepatic metabolism in early postnatal stage pigs. A total of 10 pigs, which were 7 days old, were divided in two groups: experimental group and control group. We have determined the levels of transaminases (ALT, AST) and alkaline phosphatase. Before administering the studied substance, ALT levels (u/l) in the control group was – 28,1±3,7 (u/l), and after 7 days of treatment it was 30,8±6,76 (u/l). In the experimental group, ALT levels were 30,84±6,76 (u/l). AST levels in the control group were 29,9±2,2(u/l) prior to the experiment, increasing 5,2 times after the 7 days of treatment (X=35,1±3,4(u/l). The same tendency is noted in the experimental group in which an 7,2 times increase occurs (X=35,1±3,4(u/l). These variations are not significant (P>0.05). The levels of alkaline phosphatase decrease during the experiment. Thus, in the control group, the blood levels of alkaline phosphatase in pigs is 0,55±0,06 (µmol/l), and decreases 0,16 times (X=0,39±0,04(µmol/l), while in the experimental group decreases more considerably from 0,57±0,09(µmol/l) to 0,34±0,03(µmol/l), (P<0.05).

150. ENDOTHELIAL OXIDATIVE STRESS INDUCED BY SERUM FROM PATIENTS WITH SEVERE TRAUMA HEMORRHAGE

LARISA IOANA VASILE, MARIA VRABETE, COSTIN STEFAN, CORINA STEFAN

University of Medicine and Pharmacy of Craiova

Objective. Shock induces oxidative stress by ischemia - reperfusion phenomenon. Endothelial cells are involved in the inflammatory response and oxidative stress responsible for microcirculation impairment and organ failure. We examined the potential of serum from patients to induce in vitro reactive oxygen species production by cultured human umbilical vein endothelial cells (HUVECs). Patients three groups were compared: hemorrhagic shock trauma patients, isolated brain injured patients and healthy volunteers. Methods. In the hemorrhagic shock group we sought a correlation between reactive oxygen species production and severity of shock. Serum was separated and perfused in an in vitro model of perfused HUVECs. Ex vivo reactive oxygen species production was assessed by fluorescence microscopy using dichlorodihydrofluorescein, an intracellular dye oxidized by H2O2. Results are expressed in proportional change from baseline and normalized by protidemia to control for variation related to hemodilution. Results. Reactive oxygen species production by endothelial cells exposed to serum fro hemorrhagic shock patients (46,2+/- 24,9%) was significantly greater than in those with brain injury (3,9+/-35,1%) and in healthy volunteers (-6,8+/-5,8%). Conclusion. Serum from trauma patients with hemorrhagic shock induces reactive oxygen species formation in naive endothelial cells which is correlated to shock severity.

151. OXIDATIVE STRESS AND REACTIVE OXYGEN SPECIES

LARISA IOANA VASILE, MARIA VRABETE, COSTIN STEFAN

University of Medicine and Pharmacy of Craiova

This article discusses different aspects concerning classification/ nomenclature, biochemical properties and pathophysiological roles of “reactive oxygen species” (ROS) which are pivotal to interpret the concept of “oxidative stress”. In vitro studies in both the prokaryotes and eukaryotes clearly demonstrate that exogenous or constitutive and inducible endogenous sources of ROS together with cofactors such as transition metals can damage virtually all the biomolecules. This adverse chemistry is at the origin of structural and metabolic defects that ultimately may lead to cell dysfunction and death as underlying mechanisms in tissue degeneration processes. The same biomolecular interpretation of aging has been proposed to embodies an oxidative stress - based process and oxidative stress may virtually accompany all the inflammatory events. As a consequence, ROS have proposed to play several roles in the pathogenesis of chronic - degenerative conditions, such as athero-thrombotic events, neurodegeneration, cancer, some forms of anemia, auto-immune diseases, and the entire comorbidity of uremia and diabetes. Nowadays, the chance to investigate biochemical and toxicological aspects of ROS with advanced biomolecular tools has, if needed, still more emphasized the interest on this area of biomedicine. These technological advancements and the huge information available in literature represent in our time a challenge to further understand the clinical meaning of oxidative stress and to develop specific therapeutic strategies.

152. THE ROLE OF INDUCIBLE NITRIC OXIDE SYNTHASE INHIBITOR IN RESUSCITATION OF HEMORRHAGIC SHOCK IN RATS WITH ALCOHOLEMIA

ANATOLIE VISHNEVSKI

Departament of Pathophysiology, State Medical and Pharmaceutical University „Nicolae Testemitanu”, Republic of Moldova

Background: Alcohol intoxication is associated with a high incidence of traumatic injury, particularly in the young healthy population. The impact of alcohol intoxication on the immediate pathophysiologic response to injury has not been closely examined. We hypothesized that acute alcohol intoxication would aggravate the immediate outcome from hemorrhagic shock by impairing homeostatic counterregulation to blood loss. This study was designed to evaluate the systemic arterial pressure modification within hemorrhagic shock (120 minutes) associated with alcoolemia before and after resuscitation with inducible nitric oxide synthase inhibitor (Difetur). Methods: Animals were anesthetized with ether inhalation for about 10 min. After anesthesia, a polyethylene catheter was inserted into the femoral artery and connected to a pressure transducer to monitor the mean arterial pressure (MAP). Another catheter was inserted into the femoral vein for intravenous administration of drug. The blood volume withdrawn was 30% of the total blood volume. EtOH + rats receivd a 3g/ kg dose of 20% ethanol intraperitoneally 60 minutes before hemorrhagie. Difetur was administered inravenously 20mg per kg. Results: Mean arterial pressure decreased (-30% ($p<0,05$)) after withdrawal of 30% of total blood volume from the femoral arterial catheter in rats. MAP stayed relatively low during the 2 h after induction of HS. Compared with the HS group, basal mean arterial pressure was significantly lower (-20% ($p<0,05$)) in alcohol-intoxicated rats (blood-alcohol concentration, 170 +/- 50 mg/ dL). Difetur administered in animals with hemorrhagic shock reestablish the level of MAP. Within the hemorrhagic shock, under condition with ethanol intoxication, Difetur increases the level of MAP (+35% ($p<0,05$)) comparing with level of MAP in nitrated animals. Conclusions: These results indicate marked alterations in the hemodynamic responses to hemorrhagic shock by alcohol intoxication. Inducible nitric oxide synthase inhibitor ad ministration conteract hypotension induced by hemorrhagic shock and alcohol acute intoxication.

Key words: hemorrhagic shock; ethanol intoxication; MAP.

153. BIOCHEMICAL ASPECTS OF THE HEMORRHAGIC SHOCK ASSOCIATED WITH ALCOHOLEMIA IN CONDITION BEFORE AND AFTER RESUSCITATION WITH DIFETUR

ANATOLIE VISHNEVSKI[1], STELA TODIRASH[1], OLEG GALBUR[1], NADIA TODIRASH[2]

Departament of Pathophysiology, State Medical and Pharmaceutical University „Nicolae Testemitanu”, Republic of Moldova

Student of the 3 year of Medicine, State Medical and Pharmaceutical University „Nicolae Testemitanu”, Republic of Moldova

Successful resuscitation in the hemorrhagic shock (SH) associated with the acute alcohol intoxication is directly correlated to the degree of the lesion of vital organs and development of the Systemic Inflammatory Response Syndrome. The object of the represented study is to determine activity of the blood enzymes, such as AST, ALT, Amylase, Creatinkinase in the HS (120 minutes) associated with alcoolemia in condition before and after resuscitation with Difetutr (inducible nitric oxide synthase inhibitor). Methods: Animals were anesthetized with ether inhalation for about 10 min. After anesthesia, a polyethylene catheter was inserted into the femoral. Another catheter was inserted into the femoral vein for intravenous administration of drug. The blood volume withdrawn was 30% of the total blood volume. EtOH + rats receivd a 3g/kg dose of 20% ethanol intraperitoneally 60 minutes before hemorrhagie. Difetur was administered inravenously 20mg per kg. Results: The data demonstrate increasing of the blood enzyme activity in the HS associated with alcoolemia: AST +130% ($p<0,05$), ALT +85% ($p<0,05$), Amylase + 254% ($p<0,05$), Creatinkinase +80% ($p<0,05$), in comparison with the animals animals than in controls. After resuscitation with Difetur enzymatic activity was decreased: AST -85% ($p<0,05$), ALT -74% ($p<0,05$), Amylase -175% ($p<0,05$), Creatinkinase -50% ($p<0,05$) on the contrary to non resuscitated animals.

Conclusions: The inducible nitric oxide synthase inhibitor (Difetur) has manifested cytoprotective effect thus limiting the damage of cytoplasmatic cell membranes in liver, heart, pancreas, muscle.

Key words: hemorrhagic shock; ethanol intoxication; AST; ALT; Amylase; Creatinkinase.

154. NONINVASIVE MONITORING OF CARRDIAC OUTPUT DURING HYPOXIA BY BIOIMPEDANCE

DRAGOS VLAD, ADRIAN MACOVEI, ILIE CAPANU

National Institute of Aerospace Medicine, Bucharest, Romania

Introduction: Bioimpedance is a noninvasive method allowing hemodynamical monitoring of cardiac output both in normal and sick persons. Material and methods: We used a lot of 10 pilots, scanned free from any disease, with a mean age under 25. We exposed them to hypobaric hypoxia up to 5500 m. At 5500 they had to take a stress test. ECG, BIOIMPEDANCE, PULSEOXYMETRY were performed using a BIOPAC device. Stroke volume was calculated using producer's equation. Results: Cardiac output and oxygen saturation varied in opposition during ascent (as expected), but in concordance during post effort compensation and descent. Correlation between stroke volume and heart rate as components of cardiac output are presented. As expected, heart rate contributes more to compensation. Finally, a comparation between smokers and non smokers are made. Discussion: During stress test, the rate rate plays a more important role in compensation. Attitude adaptation modifies both stroke volume and heart rate. Cardiac output does not differ between smokers and non smokers but oxygen saturation is well correlated ($p=0.05$). Conclusion: Study of bioimpedance data can provide further means of estimating hypoxia resistance.

Key words: Bioimpedance, hipoxia, stress test, smoking

155. COMPARISON BETWEEN BIOIMPEDANCE AND OTHER TECHINCAL MEANS IN ESTIMATING CARDIAC OUTPUT

DRAGOS VLAD, ADRIAN MACOVEI, MIRELA ANGHEL

National Institute of Aerospace Medicine, Bucharest, Romania

Introduction: Bioimpedance could be an effective way to monitor cardiac output. Methods: A review of current studies involving bioimpedance is made. Our experience with correlation between cardiac output measured by bioimpedance and Doppler ultrasound is presented. Results: We obtained a correlation coefficient of 0.72 ($p=0.06$), which approaches the end values of correlation measured by physiological rated methods like thermodilution. Conclusion: Bioimpedance is not precise enough to measure stroke volume, but is good enough to estimate dynamic tendencies and for clinical use.

Key words: cardiac output, bioimpedance.

156. THE EEG IN CEREBRAL ISCHEMIA: HOW UNDERSTANDING BASIC MECHANISMS CAN HELP US INTERPRET CLINICAL DATA

LEON ZAGREAN[1], ANDREI ILIE[2], DRAGOS CIOCAN[1], ALEXANDRA O. CONSTANTINESCU[1], ANA-MARIA ZAGREAN[1], MIHAI MOLDOVAN[3, 1]

[1] Center for Excellence in Neuroscience, Department of Physiology II, "Carol Davila" University of Medicine and Pharmacy, Bucharest, Romania
[2] Department of Experimental Psychology, Oxford University, UK
[3] Division of Neuroscience and Pharmacology, Panum Institute, University of Copenhagen, Denmark

The electroencephalogram (EEG) is a brain monitoring technique used to assess brain function and prognosis in patients suffering from cerebral ischemia. Global cerebral ischemia (GCI) suppresses the EEG to an isoelectric line within seconds. When the blood flow is restored the EEG recovers slowly through a pattern of bursts of activity alternating with suppression periods. Usually a slow-recovering EEG is associated with a bad prognosis. Nevertheless, the patho-physiological mechanisms underlying these EEG changes are not fully understood thus limiting their interpretability. At a cellular level, when metabolic demands exceed the energy supply (as during cerebral ischemia). In the brain, ATP is rapidly metabolized to adenosine that can block excitatory synaptic transmission via A1 receptors. We investigated the role of adenosine A1 receptor activation at the neuronal network level by monitoring the ischemia-induced EEG changes using a 4-vessel occlusion model in rats. We found that: 1) adenosine is rapidly released during GCI and accelerates the EEG suppression; and 2) a second surge of adenosine occurs during reperfusion, fragmenting the recovery of EEG in burst-suppression patterns. Thus, A1R activation during cerebral ischemia and reperfusion can profoundly disrupt EEG activity without detrimental consequences, and this observation should be accounted for when interpreting ischemic EEG changes in the clinical setting. Moreover, as the majority of brain's energy is used for electrical activity, adenosine by disrupting the neuronal networks might even reduce the metabolic demands to an extent that promotes neuronal survival in conditions of energy restriction.

Key words: EEG, adenosine, rat, neuro-monitoring.

157. CLINICAL AND PARACLINICAL STUDY IN A LOT OF TEXTILE-INDUSTRY WORKERS

ZGABARUS MIHAELA SIMONA, SIMONA GUSTI

University of Medicine and Pharmacy of Craiova

The authors have accomplished a complex clinical and paraclinical study in a lot of 250 textile-industry workers (patients) of S.C. XESTER S.A. Ramnicu Valcea, by age between 17 – 65, predominant female (70%), and from the urbane environment (90%). Entire lot of workers (patients) has been divided as follows: a lot with a length of service under 2 years, and a lot with a length of service over 15 years. For these lots have been determined: IMC (Body Mass Index), systolic blood pressure, diastolic blood pressure, ventriculare look, by an automatic oscillometric tensiometer – model OMRON M5-1, and have been effected: electro-cardiogram with a HEART SCREEN / 60G – 12 standard derivations apparatus, Holter – EKG, echo-cardiography with SLEE 401M – MOD, 2D-MOD apparatus, laboratory tests (regular tests, glicemia, lipidic profile, serumal calcium), cervical and lumbar radiography. From the anlaysis of the clinical and paraclinical tests in the studied lot, comparable with a lot of 60 clinical and biological healthy persons from the same category of age (office workers, nurses, workers which don't work in the textile-factory), we can remark the followings: 43,2% from the studied lot presented HTA (High Blood Pressure), 36 % presented atrial rhythm disorders, the predominant modifications occur in the lot with longer length of service. At 12 % has been traced out the presence of a spasmophilia. Approximately 65% (64,8 %) from the studied lot presented cervical and lumbar spondylosis, fact which can be explained by the work posture.

158. CD40-CD40L IMMUNOREGULATORY SIGNAL IN ATHEROGENESIS.

ZOTA IE., MELNIC EUGEN, MUNTEANU ANDREI, UNTESCO MAXIM

Departament of Morphopatology, State Medical and Pharmaceutical University „Nicolae Testemitanu", Republic of Moldova

Contact-dependent interactions of CD40 receptor and its ligand CD40L are regarded as a stimulator of atheroma-associated cells. A new T lymphocyte-dependent pathway of activation of immune inflammation in the vascular wall is discussed, which is presumably maintained by self-regulation of antiinflammatory cytokine production.

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