EIGHTH INTERNATIONAL MEDICAL CONGRESS

Comprehensive Overview of the Latest Research Developments in Surgery, Cardiology, Oncology, Gynecology & Obstetrics

7-10 September 2017
Athens, Hellas

Sofia, Bulgaria
2019

SEEMF

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SOUTHEAST EUROPEAN MEDICAL FORUM

(SEEMF)

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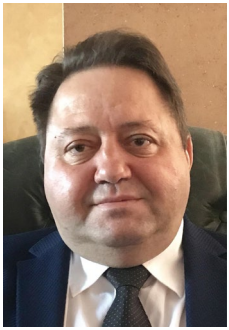

Dear Colleagues, members of SEEMF society and Friends,

It is my great honor and pleasure to welcome all of you who came to the ancient city of Athens in order to participate in the Eighth International Medical Congress of Southeast European Medical Forum.
All of you have chosen to be a part of our Congress not only because of our mutual passion for advancing healthcare, the medical profession and scientific medicine, but also because we value and cherish the friendships we make here that will last for many years to come.

The main purpose of our society is to exchange ideas and to benefit from our colleagues' experience. Thus, the Eighth International Medical Congress of SEEMF has been designed around the idea to provide an innovative and comprehensive overview of the latest research developments in the field of surgery, cardiology, oncology, diabetes, gynecology and obstetrics and etc. and to overcome many of the problems we encounter in our everyday practice.

At the beginning of the 21st century, we cannot strive for "more of the same". We are called for a new understanding of the medical science and practice in all aspects for the best of our patients.

Your presence at the Congress and the great number of submitted papers outlining the most prominent achievements in the field of medicine brings us satisfaction and encourages us to continue our traditions established throughout the years for the fulfillment of SEEMF's society main goals.

I am convinced that you will enjoy the Congress and that your interaction with your colleagues from different countries will stimulate a creative exchange of ideas, discussion of controversies, search for solutions and will be personally rewarding.

I would like to wish you once again a very successful and professional work in the historic land of Hellas.

Dr. Andrey Kehayov, MD,PhD
SEEMF President

Dear Colleagues, Dear Friends,

It is a great pleasure and privilege to welcome you to the Eighth International Medical Congress organized by Southeast European Medical Forum in the beautiful ancient city of Athens.

South East European Medical Forum is one of the most active and outstanding Medical associations, for its ability to join so many different countries from this part of Europe. SEEMF represents the bridge between South and East Europe as well as between East and West European Countries. It is multidisciplinary and includes not only different branches of medicine but is also dealing with the organization of health care systems in different countries and searching the best solutions for the patients.

The scientific program this year is extremely promising. As usual, it will provide an opportunity for presentation of the new findings in the field of professional and scientific medicine, to exchange our every day practical experiences, to discuss different topics and to strengthen our mutual friendship. Therefore, I believe that the Congress in Athens will be one of the most outstanding social events.

I have no worries about the success of the meeting and I am convinced it will be an excellent opportunity to promote personal and institutional cooperation.

I wish you a very successful scientific and professional work and enjoyable stay in Athens, Hellas.

Prof. Pavel Poredoš, MD, PhD

SEEMF Vice President

ABSTRACTS

SURGERY

THE PROGRAM "FAST TRACK SURGERY" OF GUNSHOT CHEST WOUNDS

Prof. Sviataslau Shnitko, M.D., Ph.D.
Military Medical Faculty in the Belarusian State Medical University
Minsk, Republic of Belarus

Background. The basis of the program "Fast Track Surgery" (FTS), including military field surgery, is: reducing stressful reactions of the body to damage, minimizing surgical operating injury and reducing the risk of postoperative complications.

Methods. We cite our 30-year experience in the diagnosis and treatment of 106 victims with gunshot chest wounds. In 77 (72.6%) of the victims there were bullet wounds, in 29 (27,4%) - fragmentation. End-to-end wounds were diagnosed in 56 (52.8%), penetrating wounds with injuries of the thoracic cavity organs - in 87 (82.1%).Jointly developed with the Department of Thoracic Surgery of the Military Medical Academy. (Russian Federation) the basic scheme of treatment of the wounded in the chest with the use of FTS included: pain relief; warming up the victim; early and full drainage of the pleural cavity; preferential use of minimally invasive methods of surgical intervention; sealing and stabilization of the chest wall; activities aimed at speedy expansion of the lung; elimination of bronchial obstruction and maintenance of airway patency; maintenance of adequate volume of infusion and prevention of intraoperative hypovolemia; standard antimicrobial prophylaxis, as well as early initiation of oral nutrition and mobilization of the victim.

Surgical treatment of wounds was carried out in 11 (10.4%) of the affected. Thoracotomy at different times after the wound was performed in 12 (11.3%) of the victims with gunshot wounds to the chest. Depending on the timing of the damage and the complications that arise, three types of thoracotomy (urgent, terminable and delayed) should be distinguished. In 10 (9.4%) of the wounded with gunshot wounds of the chest, videothoracoscopic operations were performed. **Results.**In the postoperative period 5 (4.7%) of the wounded developed pleural empyema, 9 (8.5%) had pneumonia, 10 (9.4%) had wound suppuration. Three victims died - 2.8%.

Conclusion. The success of the treatment of victims with gunshot wounds to the breast is associated with the application of the program "Fast Track Surgery", the decisive factor is the performance of videothoracoscopic operations.

SPINAL EPIDURAL ABSCESSES

Borislav Kitov, Hristo Jelyazkov, Aneta Petkova**,** Ivo Kehayov, Atanas Davarski, Borislav Kalnev**,** Tanya Kitova
Department of Neurosurgery, Medical University, Plovdiv, Bulgaria
Department of Anatomy, Histology and Embryology, Medical University, Plovdiv, Bulgaria

Aim of the study: To present the clinical course and outcomes of surgical treatment in patients with spinal epidural abscesses.

Material and methods: For the period 2015 - 2016 at the neurosurgery clinic of University Hospital "St. George" - Plovdiv 16 patients (7 men and 9 women) with clinical, neuroimaging and/or histological evidence of spinal epidural abscess were treated.

Results: The average age of patients was 60,2 ± 10,387 years [CI 95%-54,654 – 65,724]. In all patients, the disease debut was marked with sacral pain and /or back pain, as subsequently leg pain and/or weakness in the legs appeared. The period from onset of illness to hospitalization ranged from 15 to 120 days [CI 95% -28,686 – 55,939]. Upon hospitalization, only 3 patients (18.75%) lacked motor neurological deficit. Ten patients (62.5%) were operated to the 24th hour after admission, and the rest underwent planned surgery. Seven patients (3.75%) underwent interlaminotomy at one or more levels or hemilaminectomy. For the remaining 9 patients (56.25%) laminectomy was carried out, and 5 of them had rear pedicular stabilization. Seven of the patients (43.75%) had diminished degree of disability after surgery, for 7 patients there was no change until hospital discharge. Two patients (12,5%) have passes out.

Conclusion: For patients with spinal epidural abscess emergency surgery is the method of choice. It allows decompression of neural structures, correction of spinal deformity, subsequent stabilization and rapid mobilization of patients.

Key words: spondylodiscitis, spinal epidural abscess

ПРИМЕНЕНИЕ АУТОЛОГИЧНЫХ ТРОМБОЦИТАРНЫХ КОНЦЕНТРАТОВ В КОМПЛЕКСНОМ ЛЕЧЕНИИ ПАЦИЕНТОВ С ТРОФИЧЕСКИМИ ЯЗВАМИ ВЕНОЗНОЙ ЭТИОЛОГИИ

Профессор Василий Богдан, M.D., Ph.D.
Военно-медицинский факультет в УО «Белорусский государственный медицинский университет», г. Минск, Республика Беларусь

Цель. Провести анализ клинической эффективности разработанного метода применения аутологичныхтромбоцитарных концентратов (ТК) в комплексном лечении пациентов с трофическими язвами венозной этиологии.

Материал и методы. Оценены ближайшие и отдаленные результаты комплексного лечения 58 пациентов с хроническими трофическими язвами венозной этиологии. После хирургической коррекции, направленной на устранение причины развития язвы, в зависимости от дальнейшего варианта лечения пациенты были распределены на 2 группы. В основной группе дополнительно применяли разработанный комплексный метод использования ТК: обогащенного тромбоцитами фибринового матрикса (ОТФМ) и обогащенной тромбоцитами плазмы (ОТП). Технические особенности предложенного способа: после выполнения патогенетического хирургического лечения полученный непосредственно перед использованием в виде сгустка ОТФМ извлекали из пробирки, моделировали по размеру ТЯ и выполняли аппликацию на раневую поверхность; дополнительно инсулиновым шприцем осуществляли паравульнарное введение ОТП в объеме 0,2 мл на одну инъекцию в четырёх точках по периметру трофической язвы; в дальнейшем процедуру повторяли трехкратно с интервалом в 3-е суток исследования (патент Республики Беларусь

на изобретение №19915). В группе сравнения выполняли только основной комплекс лечебных мероприятий. Оценка клинической эффективности вариантов лечения проведена по динамике изменения площади язвенного дефекта, скорости эпителизации, времени полной эпителизации язвы, продолжительности стационарного лечения. Социальный эффект оценивали на основании анализа качества жизни по опроснику CIVIQ.

Результаты. В течение двух недель лечения площади язвенного дефекта в обеих группах имели сопоставимый уровень ($p>0,05$). Значимые различия сформировались только к 21-м суткам наблюдения: площадь язвенной поверхности у пациентов основной группе уменьшилась на 46,7% от исходного значения ($p<0,05$) и на 35,1% в сравнении со значением группы контроля к этому времени ($p<0,05$). Применение ТК позволило увеличить ($p<0,05$) скорость эпителизации до 0,09 (0,04; 0,16) $см^2$/сут, которая в 3 раза превзошла уровень группы сравнения (0,03 (0,02; 0,04) $см^2$/сут). Эпителизация язвенного дефекта отмечена у всех пациентов. Вместе с тем, время наступления полного заживления язв при использовании ТК оказалось достоверно меньше ($p<0,05$) на 10 суток, относительно группы сравнения (64,0 (58; 70,5) и 54,0 (41,0; 65,0) суток, соответственно). При анализе результатов опросника CIVIQ в отдаленном периоде установлено улучшение качества жизни пациентов в сравнении с исходным уровнем как в основной группе, так и в группе контроля. Включение в состав комплексной программы лечения трофических язв локального применения ТК, приводило к повышению качества жизни относительно группы сравнения на 12,5 баллов ($p<0,05$).

Выводы. Разработанный метод лечения пациентов с трофическими язвами венозной этиологии, основанный на стимулирующем влиянии ТК, позволяет повысить эффективность комплексного лечения и добиться положительного социального эффекта в послеоперационном периоде.

GALLSTONE ILEUS: A CASE REPORT AND REVIEW OF THE LITERATURE

P. Daikou MD, MSc, L. Dritsoulas MD, Ch. Tzamourani MD, I. Sarris MD, O. Tsimpoukidi MD, PhD, G. Dedemadi MD, PhD, FACS
Surgical Department, Amalia Fleming Hospital, Athens, Greece

Background: The term “gallstone ileus’’ is referred to the mechanical intestinal obstruction due to impaction of one or more large gallstones within the GI tract. It is a rare and potentially serious complication of cholelithiasis accounting for 1-4% of all bowel obstructions. Biliary-enteric fistula is the major pathologic mechanism of gallstone ileus, and the most common locations of impaction are the terminal ileum and the ileocecal valve. We report one case of gallstone ileus and review the literature of this rare disease.

Methods: A 63-year-old man presented to the emergency department with a 4 day history of vomiting, gas and stool suspension, and abdominal pain. He had a medical history of hypertension and underwent an appendectomy at a young age. No history of biliary disease was mentioned. The white blood count was 41.510/μl with

90.8% neutrophils. The other laboratory tests were within normal limits. Physical examination revealed a distended abdomen, mild tenderness, absent intestinal sounds along with hemodynamic instability and reduced urine output. Abdominal X–ray showed small bowel obstruction. Abdominal CT scan demonstrated air in the biliary tree, small bowel obstruction and an ectopic gallstone within the bowel lumen in the lower abdomen. This triad of findings, known as "Rigler's triad'', established the diagnosis of gallstone ileus.

Results: The patient underwent an emergent laparotomy. At operation the small bowel was distended and a gallstone was palpated in the ileum about 150cm proximal to the ileocecal valve. The gallbladder was found with signs of severe inflammation and dense adhesions to the colon and the hepato – duodenal ligament. Enterolithotomy alone was performed because of patient's severe clinical condition. The postoperative course was uneventful and he was discharged 9 days later.

Conclusion: Gallstone ileus is associated with high rates of morbidity and mortality. Clinical presentation generally includes abdominal pain, nausea and vomiting. The gold standard investigation technique is CT scan, with Rigler's triad setting the diagnosis. The optimal management of gallstone ileus remains controversial. According to the literature enterolithotomy is the most commonly used surgical technique. Enterolithotomy combined with cholecystectomy and fistula repair should be considered for low-risk patients with a low degree of cholecystitis because it bears the risk of enteric or biliary leakage after fistula closure.

TUMORS OF THE PARATHYROID GLANDS

A. Panagiotakou, D. Ioannidis, C. Oikonomou, D. Lilis, A. Dounavis, G. Karageorgos
Department of Endocrinology, Diabetes and Metabolism, Sismanoglio – Amalia Fleming General Hospital, Marousi, Greece
Department of Surgery, Sismanoglio – Amalia Fleming General Hospital, Marousi, Greece

Primary hyperparathyroidism (PHPT) is one of the most frequent endocrinopathies. About 80-90% of the cases are a result of a hyperfunctioning adenoma, followed by hyperplasia (10-15%), cancer (1%) and parathyromatosis.
Diagnosis of primary hyperparathyroidism is rather easy, but in some cases differentiating between adenoma, hyperplasia, cancer and parathyromatosis can be rather challenging. Although these cases are rare, they pose a true problem for the clinicians. Since treatment for symptomatic– and in some cases of asymptomatic – PHPT is mainly surgical, pre-operative diagnosis is crucial in order to plan extend of surgery.

In our department over the past 5 years we have encountered four very interesting cases, which presented with suspicious features that made not only preoperative diagnosis but also follow up of these patients difficult.

As we all know, there are some clues indicative of a malignant tumor such as high values of PTH or serum calcium. However after an extensive review of the published literature, it seems that only serum alkaline phosphatase (ALP) and tumor size are of diagnostic value between benign and malignant.

MODY 3 AND HEPATIC ADENOMA

A. Papadopoulou MD[1], A. Kyriakopoulou MD[2], L. Gioxas MD[1], S. Papanikolaou MD[1], A. Dounavis PhD[1]
1. Sismanoglio-Amalia Fleming Hospital, Surgical Department of Amalia Fleming, Melissia, Athens, Greece
2. Sismanoglio-Amalia Fleming Hospital, Department of Pathological Anatomy of Sismanoglio, Marousi, Athens, Greece

Background: We present the case of a 28 year old patient with Turner syndrome, who underwent laparoscopic cholecystectomy in our clinic. Intraoperative cholangiography was also performed because of previous jaundice. During surgery a mass next to the gallbladder was discovered and removed. The postoperative course was uneventful. From her medical history we were informed that she suffered from newly diagnosed diabetes mellitus (MODY 3) and that she was treated with oral contraceptives, when she first experienced menstruation at the age of 10.
Results: The histologic report described a hepatic adenoma without portal spaces and bile ducts. There was no sign of inflammation or sinusoidal expansion and the hepatic cells presented normal expression of e-Cadenin This specific morphology suggested HNF1A gene inactivation and estrogen uptake.

Conclusion: Although hepatic adenomas are rare benign neoplasms it is important to specify their genetic background. Mutations of HNF1A gene affect not only the structure and function of the liver, but may also lead to pancreatic deficiency. For this reason the importance of HNF1A gene and its correlation with MODY are discussed.

INTEGRATION OF SHEATHS OF PORTAL TRACTS AND HEPATIC VEINS IN LIVERS OF HUMANS AND SOME MAMMALS

L. Patarashvili, I. Chanukvadze, D. Kordzaia
Iv. Javakhishvili Tbilisi State University (TSU)- Tbilisi, Georgia
Tbilisi State Medical University – Tbilisi, Georgia
Al. Natishvili Institute of Morphology, TSU – Tbilisi, Georgia

The sites of integration of connective tissue sheaths of portal tracts and liver veins in the human liver have been described (Chanukvadze, 1978, 1989). Later we have detected the similar structures in the rodent livers as well (Kordzaia, 2014). At the same time, these sites of integration of connective tissue sheaths in humans, as well as in rats, have the standard topography.

These sites represent the areas where bile ducts become adjacent with the tributaries of hepatic veins and may cause the development of their thrombotic complications (Budd-Chiari syndrome) in the case of purulent cholangitis. In rat livers we have described the translocation of biliary structures from portal tract toward hepatic veins, causing the appearance of ductular profiles accompanying hepatic veins on histological specimens.

We hypothesize that the sites of integration of connective tissue sheaths of afferent and efferent hepatic tubular structures should be discovered in every animal, the livers of which are provided by two venous systems – portal and hepatic.

We also suppose that the sites of integration of porto-caval connective tissue sheaths may be visualized by MRI.

The further investigation of sites of integration of portal tracts' and hepatic veins' connective-tissue sheaths and justification of their permanency may be reflected in the International Anatomical Nomenclature as well as taken into consideration while "printing" of scaffolds for the artificial bio-liver.

LAPAROSCOPIC TREATMENT OF LIVER ABSCESSES, CYSTS AND KIDNEY CYSTS

L.Dritsoulas MD, P.L. Chalkias MD, O.Tsimpoukidi MD, PhD, A.Dounavis MD, PhD
Surgical Department, Amalia Fleming Hospital, Athens, Greece

Background: The aim of this study is to present our experience in selected cases of laparoscopic drainage of liver abscesses, cysts and kidney cysts.
Methods: In a period of three years two cases of liver abscesses were treated successfully with laparoscopy. The drainage was complete and two drains were left in place. Three cases of kidney cysts and one case of hepatic cyst were treated laparoscopically too. A partial wall cyst removal was performed and the cavity was filled with omentum. Another hepatic cyst could not be accessed laparoscopically because it was intrahepatic. No complications related to the method were encountered.
Results: Big liver or kidney cysts, when asymptomatic, need to be treated. The usual method is paracentesis under CT or US guidance. Sometimes these cysts recur – perhaps because, due to the location of the cyst, the insertion of a needle is not feasible. Although a more invasive method and one which requires general anesthesia, when the lesion is accessible, laparoscopy has the benefit of wide drainage and complete hemostasis. The same benefits also apply in the case of liver abscesses, where small tubes are inserted through paracentesis, and which otherwise have the tendency to occlude.

Conclusion: In difficult cases when paracentesis is not feasible or adequate, laparoscopic drainage of liver abscesses, liver and kidney cysts may be the next step to resort to. In our experience this yields good results.

MAJOR NECROTIC INFECTIONS OF SOFT TISSUES

Mourikis E. MD, Adamopoulos S. MD, Oikonomou C. MD, Dounavis A. MD, PhD.
Sismanoglio-Amalia Fleming Hospital, Surgical Department of Amalia Fleming, Melissia, Athens, Greece

Background: This is an account of our experience in treating major necrotic infections of soft tissues.

Methods: Over a five year period(2012-2017), our department treated 14 patients with major necrotic infections of soft tissues.Their ages ranged from 22 to 86,

with the vast majority being from 40 to 70 years. These patients needed between 1 and 9 operations each. Most of the cases were Fournier gangrenes of the perineum. There were no mortalities. The stay of the patients in the hospital was lengthy, ranging from 3 to 45 days. Most of the times the infection was multimicrobial(both gram+ and gram) based on the cultures taken from the surgical trauma.

Discussion: These infections are not common. They tend to manifest themselves in obese, diabetic and immunocompromised people. It seems that the most common and important risk factor is Diabetes Mellitus(either type 1 or 2), which was present as a chronic disease in almost all the patients. The initial manifestation is usually mild. The attending physician has to be alert and very aggressive when operating because if left untreated the infection spreads rapidly and cannot be managed. We believe that key element in saving the life of these patients was the early surgical debridement.

Conclusion: In some high-risk patients, physicians must always have in mind the possibility of necrotic soft tissue infections when they present with mild manifestations. When required, operations must be aggressive.

REAL TIME STRAIN ELASTOGRAPHY FOR ASSESSMENT OF LIVER FIBROSIS IN PATIENTS WITH CHRONIC LIVER HEPATITIS

Dr D Doykov, Assoc. Prof. Dr V. Andonov, md, Dr K Doykova
Second Department of Internal Diseases, Medical University - Plovdiv, Bulgaria
Department of Gastroenterology, University Hospital Kaspela, Plovdiv, Bulgaria
Department of Diagnostic Imaging, Medical University - Plovdiv, Bulgaria
Department of Imaging diagnostics, University Hospital Kaspela, Plovdiv, Bulgaria

Background. Estimation of liver stiffness is essential in the treatment of liver diseases. Various procedures alternative to liver biopsy have been developed, and different kinds of elastography using shear waves are established methods for evaluating liver stiffness and have been shown to be a prognostic indicator. In contrast, strain elastography (SE) has been applied to evaluate liver stiffness, however the significance remains uncertain.

Methods. We evaluated 144 patients being hospitalized in the GI clinic between 2013-2016. 34 of them had chronic viral hepatitis C , 80 had chronic viral hepatitis B and 30 had normal liver status considered as healthy volunteers. All of them underwent serological test, RTSE and liver biopsy. No liver biopsy was done to healthy volunteers. The chronic viral hepatitis was evaluated by positive markers HBsAg, Anti-HBcoreTOTAL and Anti-HCV. The healthy volunteers group consists of patient with normal levels of hepatic enzymes, negative viral markers, absence of any cardiac, pulmonary or neoplastic diseases. All of them drink alcohol less than 15ml per day.

For the evaluation of the liver stiffness by RTSE we used Aloka Alpha 7 with installed additional module for elastography. Transducer model was UST-5412, 5-13MHz. The name of the strain elastography in Aloka ultrasound systems is Real-Time Elastography /RTE/ .

We derived the elastograms in accordance with manufacturer's and EFSUMB guidelines. The probe was located in right intercostal space, 5-8 ribs between frontal

and middle axial line. All the patients were in recumbent position with right hand under the head. They were asked to breathe as usual, because in RTE is acquired in seconds and breathing movements doesn't cause artefacts.

In our research we examined an area 350-500mm^{2,} located 20 to 50mm from surface. The results were considered as successful when the indicator for applied compression showed 3-4 on a scale from 0 to 6. Five valid images were saved for every patient.

For histological verification of the liver fibrosis was used disposable biopsy gun with tru-cut needle 16Ga, 22mm length of biopsy sample, where the sample consists of upto 11 portal spaces. The patients were biopsied in right liver lobe under B-mode, after precise estimate for safety. The biopsy was considered as useful if it had at least 5 portal spaces.

Results

1.The correlations between JES and liver fibrosis

We evaluated the association between the EI and liver histological fibrosis. The EI was increased as liver fibrosis was advanced. When we divided patients into two groups, those with mild fibrosis (F0, F1, and F2 in METAVIR score) and those with advanced fibrosis (F3 and F4 in METAVIR score), JES was significantly different between the two groups (mild fibrosis vs. advanced fibrosis: 2.53 vs. 3.70, $p<0.001$). In contrast, JES was similar among those with different activity score A0 to A3. When we analyzed the association between JES and histological fibrosis score according to the ethiology of liver diseases, significant differences between mild fibrosis and advanced fibrosis were found in HCV infection (2.56 vs. 4.05, $p<0.001$). However, no significant difference was found in HBV infection (2.94 vs. 3.51, $p = 0.10$). In HBV infection, the JES was relatively high in the mild fibrosis group. Then we evaluated the mismatched cases between JES and histological fibrosis, HBV infection or higher BMI might be associated the dissociation. As conclusion JES could diagnose advanced fibrosis, especially in HCV infection.

2.*Correlation between JES and other fibrosis markers*

Diagnostic performance assessed by receiver operating characteristic (ROC) curve and the area under the ROC curve (AUC) analysis showed relatively good diagnostic ability for F4 and advanced fibrosis (F3 and 4) (AUC: 0.768 and 0.774, respectively). Especially the EI showed better AUC in predicting advanced fibrosis (F3 and F4). Furthermore, JES showed better diagnostic value as compared to other fibrosis makers such as APRI, and the FIB4 index. The association between JES and serum fibrosis marker was also evaluated. JES showed good associations with other fibrosis markers. However, the JES was not relevant to serum ALT consistent with the result of histological findings. Thus, the JES had a better diagnostic performance for predicting advanced fibrosis than serum fibrosis markers and could distinguish advanced liver fibrosis independent of liver inflammatory activities.

Conclusion. SE could estimate advanced liver fibrosis without influence of liver inflammation unlike other serological liver fibrosis markers. SE might be a prognostic factor in chronic liver hepatitis.

CASE REPORT - TYPE III (BY EHS CLASSIFICATION) INCARCERATED PARASTOMAL HERNIA AND JEJUNUM ADENOCARCINOMA (PT3N0MX (0/8) G2, L1, PN1, R0), COMPLICATED WITH SMALL BOWEL PERFORATION AND ACUTE, DIFFUSE, PURULENT PERITONITIS (TOXIC STAGE)

Prof. Gia Lobzhanidze MD, PhD, ScD.; Gia Datuashvili MD, PhD.; Dr. Zaza Khachiperadze MD, PhD Student; Dr. Erekle Tkabladze; Dr. Ilia Alfaidze; IvaneJavakhishvili Tbilisi State University - Georgia; Tbilisi State Medical University - Georgia

30.10.2015 The 45-year-old woman was brought to the clinic with complaints: abdominal pain, gigantic size, tension and painful tumor formation around sigmoid stoma, nausea, vomiting, dry mouth, general weakness.

The patient underwent anurgent operation under the general anesthesia: Laparotomy, herniotomy, small intestine resection with tumor and perforated area, forming the jejunalstump in 10 cm from the lig. Treitz, forming a distal small bowel stump, intestinal jejunal intubation, abdominal cavity sanitation and drainage.

Intraoperative Ds.: Type III (by EHS classification) Incarcerated Parastomal Hernia and Jejunum Adenocarcinoma (pT3N0Mx (0/8) G2, L1, Pn1, R0), Complicated With Small Bowel Perforation and Acute, Diffuse, Purulent Peritonitis (toxic Stage)

02.11.2015 from the drainage in the abdominal cavity was marked brown discharge with smell, because of the patient was taken to operation. Intraoperative was observed: Infarction of the colon spleen angle descend colon, in the area of distal stump of the smallintestine 7 cm infarction. Performance: resection of the necrotic part of the colon, single-barelledtransversostomy,resection of small intestinal necrotic part, formation of the stump in ileum part, sanitation and drainage of abdominal cavity, laparostoma formation.

During the postoperative period, the condition of the patient was severe, the discharge from drainages was serous-purulent. Insides aspiration from intubed jejunum was continued.

04.11.15 Was done the planned relaparotomy: sanitation and draining, laporostoma formation. In the intensive care unit, were still expressed the sepsis and septic shock clinical picture. Was continued medication with vasopressors and antibiotics. The purulent discharge from drainage has decreased.

09.11.15 In the morning from drainage was reported bile discharge, which indicated the insufficiency of the jejunal stump. Was done the operation: 2 cm part resection of the stump area, stump was closed. The duodeno-jejuno anastomose side by side was formed, between the lower horizontal branch of duodenum and taken loop of jejunum. The condition of the patient was severe. Was continued medication with vasopressors, antibiotics and active aspiration of insides from duodenum. During the treatment period, the situation has improved in the dynamics.

20.11.15 From the drainage in the abdominal cavity was marked a mangled bile-excremental discharge. It was done: the resection of the perforated area of the colon, the newly formed transversostoma. Since the jejunal stumps close was technically impossible, was done the jejunal ballooning, the drainageswere brought around, the abdominal cavity was drained and sanitized.

29.12.15 Patient was transferred to general surgery department. During the course of treatment, the patient's condition improved, the discharge from jejunal stump reduced to 250 ml.

08.01.2016 The patient was discharged from clinic in a satisfactory condition.

ABOVE-KNEE AMPUTATION UNDER SCIATIC AND FEMORAL NERVE BLOCK ANESTHESIA ENHANCED BY CONTINUOUS I.V. INFUSION OF DEXMETOMIDINE, IN CRITICALLY ILL PATIENT

Makripodi Marina, Vavoura Anastasia, Vasilaki Maria, Chantzi Christina.
Department of Anesthesia, G. Gennimatas General Hospital, Athens

Aim: Our aim was to perform Major Lower Extremity Amputation (MLEA) in ASA IV, septic, unstable patient avoiding General Anesthesia (G.A.) and/or Subarachnoid or Epidural Anesthesia due to medical reasons.

Introduction: Our 64 y.o. patient had a history of General Atherosclerosis, Heart Failure, Renal Failure, Atrial Fibrillation and Insulin dependent Diabetes. On admission he was haemodynamically unstable and on anticoagulant treatment which excluded him from Lumber plexus block, as there was no time to correct bleeding disorder. To achieve sufficient anesthesia for femoral amputation it is required to block femoral, lateral cutaneous femoral, obturator nerve (lumber plexus) and the sciatic nerve (sacral plexus). Alternatively G.A. may be given, but our patient would be placed at high risk for postoperative Pulmonary and Cardiac complications.

Method: To achieve sufficient anesthesia we performed two peripheral nerve blocks (sciatic and femoral) and in order to avoid toxic doses of local anesthetic we enhanced the anesthesia by continuous i.v. infusion of Dexmetomidine.
Dexmetomidine as a sedating agent helped the patient to cooperate and as a supplementary analgesic agent reduced the local anesthetic dose requirements. The **femoral block** is well-suited for surgery on the anterior thigh and knee, quadriceps tendon repair, and postoperative pain management after femur and knee surgery. When combined with a **block** of the sciatic nerve, anesthesia of almost the entire lower extremity from the mid thigh level can be achieved.[1]

Conclusion: The combination of regional blocks and i.v continuous infusion of Dexmetomidine to compensate for any residual nerve function, provided sufficient anesthesia for MLEA, no side effects were observed, conversion to G.A. was not required and the patient had an easy recovery.

INGUINAL HERNIAS IN PATIENTS UNDERGOING LAPAROSCOPIC CHOLECYSTECTOMY

Tzamourani C. MD,Daikou P. MD, Dedemadi G. MD, PhD, Dounavis A. MD, PhD.
Sismanoglio-Amalia Fleming Hospital, Surgical Department of Amalia Fleming, Melissia, Athens, Greece

Background: The objective of this trial, which was accomplished in our department in one year, was to check the coexistence of inguinal hernias and

cholelithiasis, during a planned laparoscopic cholecystectomy in patients with or without known hernias.

Methods: The under examination sample consisted of 73 patients who were operated by a team leaded by an experienced surgeon. Thirty three patients were male (45,2%) and forty were female (54,8%) and their mean age was 66,2 and 58,5 years respectively. All these patients undergoing laparoscopic cholecystectomy were examinedthoroughly in both inguinal regions for presence of hernias.

Results: We detected thirty patients with different types of hernias. Thirty three patients had no hernia and in the remainingten cases the inspection of the lower abdomen was not feasible, due to adhesions, obesity and lot other reasons. The hernias detectedwere five indirect, nine direct and sixteen bilateral. Their size varied significantly, including dilated internal ring and loose transversalis fascia. Five umbilical and one femoral hernia were also encountered.

Discussion: A significant number of patients having hernias not known yet was found. Some of them were small but we believe that since the anatomic deformity was present in the form of loose transversalis fascia or wide internal ring, the potential for further hernia development is present. All patients were informed about the presence of hernia and proper consultation was given concerning their weight and body habits.

Conclusion: It seems that it is a good clinical practice to observe the whole abdominal cavity during laparoscopy and especially the inguinal region for presence of hernias and to consult the patients accordingly.

BIFURCATION STENT IMPLANTATION ON DISTAL LEFT MAIN. NILESIR STENT REGISTRY.

Assoc. Prof. I. Petrov, MD, PhD, FESC, FACC; Dr. Z. Stankov, MD; Dr. I. Tasheva, MD
"Acibadem City Clinic University Hospital "

Aims: Based on excellent results of dedicated bifurcation stent usage in distal LM stenting (especially with nile croco and nile pax platforms) we decide start single center register. The aim is to evaluate

short-term and mid-term the angiographic and clinical outcomes of patients undergoing bifurcation dedicated stent (Nile SIR) implantation for unprotected left main coronary bifurcation artery

(LMCA) stenosis.

Methods: A total of 21 symptomatic patients with angiographycally proved sugnificant unprotected distal LM bifurcation stenosis was treated with implantation of Nile SIR sirolimus-eluting stent. In the cohort there was 18 male and 3 female patients, average age 64 years. All of them were clinically followed at 2nd week, 1st and 3th mount after procedure. 16 patients, whom 6th mounth period after stent implantation has expired was angiographically followed at 6th month. In addition to the coronary angiography, an intravascular ultrasound (IVUS) control was performed. Another 5 patients will be angiographyally evaluated in next 2 mounts.

Results: During the procedure we observe technical success in all patients,

without severe procedural complications – significant residual stenosis, coronary artery thrombosis, dissection or rupture. At the hospitalization period there was no periprocedural myocardial infarction or in-hospital mortality. All patients was discharged within 48 hours after procedure. During clinical follow up we observe only 1 patient with typical angina relapse, at 4th month after the procedure. The same patient was subjected to coronary angiography – with critical in-stent restenosis in non-bifurcation stent, implanted simultaneously with Nile PAX. At 6th month angiographic and Intravascular Ultrasound (IVUS) follow-up there was excellent stent apposition, optimal epithelization, without proliferation and carina "free of metal"

Conclusion: First clinical and angiographic results of the Nile SIR dedicated bifurcation stent usage in unprotected distal LMCA disease are encouraging.

ENDOVASCULAR TREATMENT OF COMPLEX AORTIC PATHOLOGY

Assoc. Prof. I. Petrov, MD, PhD, FESC, FACC; Dr. Z. Stankov, MD; Dr. I. Tasheva, MD "Acibadem City Clinic University Hospital "

Endovascular aortic aneurysm and dissection repair has been established as an alternative to open surgical repair. One of the main limitations of endovascular aortic aneurysm repair is the need for a sufficient landing zone below or above vital aortic branches. To overcome this complex situation, during the last 5 years, out of 270 treated "aortic" patients, in 37 we have applied the strategy of routine implantation of non-covered stents with the aim to centralaize the flow or to provide sufficient landing zone for stent-grafts implantation. In 22 patients with toracoabdominal and juxtarenal aortic aneurysm we used the novel device multilayer flow modulation (MFM) stent. Similar approach was used for patients (total 15patients) with aortic dissection Stanford A and B after successfully surgical or endovascular repair but persisting critical visceral and peripheral ischemia. In these patients we achieved decompression of the true lumen and side branches flow restoration .

Successful procedure was achieved in all patients with periprocedural mortality/ MACE of 0%. Clinical and CT followup 1,3,6,12 monts after the procedure showed excellent results of 0% aorta related mortality and low rate of late events (3 patients with late rupture/ or thrombosis- all resolved by endovascular approach).

Conclusion: Endovascular treatment with the application of "centralization of flow" strategy using non-covered stents is safe and efficient minimally invasive approach. These preliminary results have to be confirmed in larger trials.

THE ABDOMEN AS A SOURCE OF OCCULT SEPSIS. A CASE SERIES.

Dr. Karabas V. MuDr. Tsanakalis E. MuDr. Dimou E. MuDr. Zapounidou A. MuDr. Dr. kotsalis G.
General hospital of Agia Olga, Greece

There is a category of patients who manifest a severe clinical syndrome, usually related to an underlying systemic diseases. It is not apparent from the clinical or laboratory findings the initial cause triggering the above-mentioned syndrome.

Three cases of patients will be presented whose clinical cause of destabilization was located in the abdomen and the diagnosis was based mostly on the exclusion of other causes, along with the clinical suspicion, though at the time it appeared to be contradicting the diagnostic findings.

The common denominator in all three cases was that due to the severe sepsis the hospitalization in the department of intensive care was required. The definite diagnosis in all three patients was reached after performing diagnostic laparotomy, during which the cause of the destabilization was addressed accordingly.

These cases indicate that the abdomen can and should be considered as the cause in cases of severe sepsis, even if the diagnostic findings at the time do not point towards the abdomen.

A HUNDRED CONSECUTIVE CASES OF ACUTE PANCREATITIS WITHOUT COMPUTER TOMOGRAPHY. WHEN IS IT NDICATED?

Authors:.Dr. Karabas V. MuDr. Tsanakalis E. MuDr. Tzeferakos M. MuDr. Sioula M. MuDr Kostoulas G. Dr. kotsalis G.

Author's affiliation and country: General hospital of Agia Olga. Greece

In our attempt as a department to follow in unison the new trend regarding acute pancreatitis (Classification of acute pancreatitis – 2012: revision of the Atlanta classification and definitions by international consensus.)We hospitalized 120 cases in a prospective study from 2014-2016 with the above mentioned diagnosis. 98 out of the 120 patients fulfilled particular criteria such as being the first episode of pancreatitis, without an (Endoscopic Retrograde ChollangioPancreatitis) ERCP having been performed in the past, and the causative agent being lithiasis. None of the patients had Computed Tomography (CT) performed during the first 7 days of hospitalization, regardless of the severity of the pancreatitis or the clinical manifestations. The reasoning behind this approach was based on the pathophysiological mechanisms that lead to the disease's manifestation. Following this approach we managed to navigate away from unlikely diagnostic paths that might have arisen in case of unnecessary exams being performed.

ONCOLOGY

POORLY DIFFERENTIATED ADRENAL NEUROBLASTOMA WITH LIVER METASTASES: CASE REPORT

Mikheil Jangavadze MD, PhD, Aleqsandre Natishvili Institute of Morphology, TSU, Tbilisi, Georgia , Nana Goishvili MD, PhD, Aleqsandre Natishvili Institute of Morphology, TSU, Tbilisi, Georgia., Ia Khakhutaishvili MD, PhD, Aleqsandre Natishvili Institute of Morphology, TSU, Tbilisi, Georgia., Ia Kirvalidze MD, PhD, Aleqsandre Natishvili Institute of Morphology, TSU, Tbilisi, Georgia.

Background: The most common site of the congenital neuroblastoma is suprarenal medulla. Cystic metastasis to the liver is rare. Such cases can be misdiagnosed as another tumour, such a mesenchymal hamartoma, vascular and bile duct abnormalities, and even echinococcal cyst.

Methods: Here we present a rare case of 2 months old newborn boy with solid-cystic liver mass, misdiagnosed clinically as a Caroli's disease. Computed tomography revealed large solid-cystic lesion of the liver, and right suprarenal gland. Biopsy was taken from both sites. To reveal the true nature of the tumour, routine histology and immunohistochemistry was done.

Results: Tumour had a small round cell tumour type histologic features - sheets of small round cells forming small lobules and separated by fibrovascular septa. Formation of the Homer Wright rosettes was observed. Tumour was negative for S100, Desmin, Vimentin, CD99, PanCK, GFAP, EMA, aSMA, CD43. In neoplastic cells, strong expression of the neuroendocrine markers was observed (Synaptophysin+. CD56+). Ki67 positive in more than 40% of cells.

Conclusion: We represent a rare case of neuroblastoma of the right adrenal gland with cystic metastasis of the liver, clinically misdiagnosed as a Caroli's disease. In cases of the liver congenital cystic lesions neuroblastoma should be considered in differential diagnosis.

RARE CASE OF ALVEOLAR SOFT-PART SARCOMA (ASPS) OF THE M. TRICEPS SURAE – CASE REPORT

Nana Goishvili MD, PhD, Aleqsandre Natishvili Institute of Morphology, TSU, Tbilisi, Georgia.

Mikheil Jangavadze MD, PhD, Aleqsandre Natishvili Institute of Morphology, TSU, Tbilisi, Georgia,Ia Khakhutaishvili MD, PhD, Aleqsandre Natishvili Institute of Morphology, TSU, Tbilisi, Georgia., Ia Kirvalidze MD, PhD, Aleqsandre Natishvili Institute of Morphology, TSU, Tbilisi, Georgia.

Background: Alveolar soft-part sarcoma (ASPS) is a rare malignant soft tissue tumour. It typically arises in the extremities. ASPS has a specific der(17)t(X;17)(p11.2;q25) translocation. Other sarcoma specific molecular markers usually are negative.

Methods: Here we present case of ASPS in 10 years old boy. Tumour was found in m. triceps surae.

Results: Tumour consisted nests of tumor cells, separated by sinusoidal vascular channels. They formed lobules of different sizes, divided by dense fibrous

septs. Cells were discohesive. The cells were large polygonal and less pleomorphic, with distinct cell borders and vesicular nuclei, containing nucleoli and abundant granular cytoplasm. Mitotic figures were rare. Immunohistochemically tumour cells were negative for sarcoma and epithelioid markers (EMA -, AE1/AE3 -, 34b/E12 –, Desmin–, Vimentin –, aSMA-, CD56 -, S100 -, Synaptophysin–, CD34 -, CD99 –, GFAP –, Ki67 - 6%). Only TFE3 were positive in tumour cell nuclei and FISH method showed break in TFE3 gene (These analyses was done in reference laboratory: Institute of Pathology, University of Kiel, Germany).

Conclusion: ASPS is rare diagnosis, especially in small countries. It is not always possible to perform all necessary diagnostic tests. Differential diagnosis manly mainly based on histology and exclusion of other soft tissue tumours.

LAPAROSCOPIC NEAR INFRAAREDINDOCYANINE GREEN SENTINEL LYMPH NODE MAPPING IN ENDOMETRIAL CANCER

Andrea Papadia M.D., Ph.D., Michael D Mueller M.D.

According to FIGO staging system, patients with endometrial cancer should undergo a pathological assessment of the lymph nodes to determine the extrauterine spread of the disease. The sentinel lymph node biopsy seems an oncologically safe and less morbid procedure than a radical pelvic and paraaortic lymphadenectomy in patients affected by endometrial cancer.

When performed with indocyanine green (ICG) as a tracer and with Near Infrared technology (NIR), the sentinel lymph node mapping yields high overall and bilateral detection rates and low false negative rates. Higher detection rates are recorded when ICG is used as compared to a combination of Tc-99m and blue dye. As compared to a strategy in which patients are triaged to a full lymphadenectomy based on frozen section analysis of the uterus, the ICG SLN mapping strategy seems to be more efficient. Higher doses of injected ICG are associated with a higher number of removed SLNs but not with higher bilateral detection rates. Laparoscopic NIR-ICG SLN mapping is a safe alternative to a full lymphadenectomy in patients affected by endometrial cancer and is associated with a lower surgical morbidity.

РЕДКИЙ СЛУЧАЙ СОЧЕТАНИЯ ГАСТРОИНТЕСТИНАЛЬНОЙ СТРОМАЛЬНОЙ ОПУХОЛИ ЖЕЛУДКА И ХРОНИЧЕСКОГО ЛИМФОЛЕЙКОЗА: ТЕРАПЕВТИЧЕСКИЙ ПОДХОД

Ю. Жечев, С. Ангелова, к.б.н., П. Здравкова, Т. Диков, проф. М. Генова, д. м. н.[1]
Университетская специализированная больница для активного лечения гематологических заболеваний, София, Болгария
Диагностико-консультативный центр „Александровска”, София, Болгария

Синхоронное возникновение и клиническое проявление двух неоплазий, таких как хронический лимфолейкоз (ХЛЛ) и гастроинтестинальная стромальная опухоль (ГИСО), явление исключительно редкое и случается не чаще 3 случаев на 10 миллиардов населения. В доступной нам литературе описаны только два

подобных случая. Естественно, не сущесвует общепринятых терапевтических стратегий для больных, страдающих ХЛЛ и ГИСО одновременно.

Мы сообщаем о 66 годишнем пациенте, оперированном в 2014 году по поводу ГИСО. Во время инициального обследования у него обнаружен лейкоцитоз и доказан ХЛЛ.

Методы: Во время диагностицирования пациенту осуществлены гистологический и иммуногистохимический анализ опухолевой ткани, флоуцитометрия периферической крови (ПК), флуоресцентная in situ гибридизация (FISH) лейкоцитов ПК, фиброгастроскопия, компьюторная томография (КТ).

Результаты: Наличие ГИСО у нашего пациента было доказано через гистологический и специфический иммуногистохимический анализ. Во время первичного обследвания был обнаружен лейкоцитоз и абсолютный лимфоцитоз при отсутствии других отклонений гематологических и биохимических показателей. Лимфаденомегалия и гепатоспленомегалия на тот момент также не были обнаружены. Флоуцитометрия ПК выявила наличие моноклональной В-клеточной популяциии с иммунофенотипическими характеристиками ХЛЛ. Не были открыты отклонения клинически значемых молекулярно-цитогентетических маркеров. После оперативного устранения ГИСО начато лечение тирозинкиназным ингибитором (ТКИ) – Имакребином. В отношении ХЛЛ пациент оставлен без терапии, под клиническим наблюдением.

Клиническое наблюдение в течении двух лет, включающие фиброгастроскопию, показало, что пациент находится в состоянии ремиссии в отношении ГИСО. Лечение ХЛЛ не было необходимо до февраля 2016 г., когда был зарегистрирован прогресирующий лейкоцитоз (до 210 G/L) с подтвержденными посредством КТ клиническими проявлениями генерализированной лимфаденомегалии и в легкой степени гепатоспленомегалии. После первого терапевтического курса по протоколу Ритуксимаб+CVP зарегистрировано полное и продолжительное нормализирование гематологических показателей и отсутсвие лимфаденомегалии и гепатоспленомегалии. В настоящее время пациент проходит непрерывный курс лечения ТКИ и под клиническим наблюдением в отношении ХЛЛ.

Вывод: Наш клинический опыт лечения уникального случая сочетания ГИСО и ХЛЛ показал, что эти два коренно различных по своей биологической природе заболевания могут быть одновременно третированы согласно современным методическим указаниям для каждого из них.

CUTANEOUS METASTASIS OF PANCREATIC CANCER : A CASE REPORT AND REVIEW OF THE LITERATURE

A.Sarafopoulos MD, K.Tomai MD, D.Tasioula MD, K.Malouhou MD, C.Vourlakou MD, PhD G.Anastasiadis MD, PhD
Department of Dermatology, Evaggelismos General Hospital, Athens, Greece

Background: In most cases cutaneous metastases develop after the initial diagnosis of the primary malignancy. In very rare cases skin metastases may occur at the same time or before the primary cancer has been diagnosed. The overall incidence of cutaneous involvement is approximately 5%. The average survival time of patients with cutaneous metastases is approximately 7,5 months. The most common malignancies that metastasize to the skin in women are breast, colon and melanoma. In men the most common are lungs and colon. We report a rare case of cutaneous metastasis of a high grade pancreatic neuroendocrine tumor (PNET).

Methods: A 85-year-old man presented to the dermatological department with a 20 day history of a skin lesion in the left nasolabial fold . Physical examination revealed a painless subcutaneous tumor about 4 cm in diameter with a red firm nodule on the surface of it. A surgical biopsy was taken from the lesion. The patient had a medical history of a non-operable pancreatic neuroendocrine tumor (NET G3) two years ago and he underwent radiotherapy.

Results: The histopathological report was the same as that of a metastatic lesion from the primary tumor of pancreas. The histopathological examination revealed compact sums of small cell carcinoma with extended necrosis and imunophenotype CK8,18(+), CDX2(+), PDX1(+), Islet-1(+), CD56(+), Synaptophysin(+), Chromogranin(+), proliferation index Ki-67>70%. The patient underwent surgical excision of the lesion in the plastic surgery department.

Conclusion: Cutaneous metastasis of pancreatic cancer is extremely rare with only 63 reported cases in the literature. Among these, adenocarcinoma was predominant (84,1%) and the median survival of patiens was 5 months. In the case of neuroendocrine tumors 35 cases with cutaneous metastases have been reported in the literature. The clinical lesions may mimic more common entities such as lipomas, dermatitis, erysipelas and ulcers. In summary this case report is characterized by the rarity of cutaneous metastasis of pancreatic neuroendocrine tumor (PNET) and its location in the left nasolabial fold.

RARE CASE OF ALVEOLAR SOFT-PART SARCOMA (ASPS) OF THE M. TRICEPS SURAE – CASE REPORT

Nana Goishvili MD, PhD, Mikheil Jangavadze MD, PhD, Ia Khakhutaishvili MD, PhD,Ia Kirvalidze MD, PhD,
Aleqsandre Natishvili Institute of Morphology, TSU, Tbilisi, Georgia

Background: Alveolar soft-part sarcoma (ASPS) is a rare malignant soft tissue tumour. It typically arises in the extremities. ASPS has a specific der(17)t(X;17)(p11.2;q25) translocation. Other sarcoma specific molecular markers usually are negative.

Methods: Here we present case of ASPS in 10 years old boy. Tumour was found in m. triceps surae.

Results: Tumour consisted nests of tumor cells, separated by sinusoidal vascular channels. They formed lobules of different sizes, divided by dense fibrous septs. Cells were discohesive. The cells were large polygonal and less pleomorphic, with distinct cell borders and vesicular nuclei, containing nucleoli and abundant granular cytoplasm. Mitotic figures were rare. Immunohistochemically tumour cells were negative for sarcoma and epithelioid markers (EMA -, AE1/AE3 -, 34b/E12 –, Desmin–, Vimentin –, aSMA-, CD56 -, S100 -, Synaptophysin–, CD34 -, CD99 –, GFAP –, Ki67 - 6%). Only TFE3 were positive in tumour cell nuclei and FISH method showed break in TFE3 gene (These analyses was done in reference laboratory: Institute of Pathology, University of Kiel, Germany).

Conclusion: ASPS is rare diagnosis, especially in small countries. It is not always possible to perform all necessary diagnostic tests. Differential diagnosis manly mainly based on histology and exclusion of other soft tissue tumours.

POORLY DIFFERENTIATED ADRENAL NEUROBLASTOMA WITH LIVER METASTASES: CASE REPORT

Mikheil Jangavadze MD, PhD; Nana Goishvili MD, PhD; Ia Khakhutaishvili MD, PhD;Ia Kirvalidze MD, PhD.
Aleqsandre Natishvili Institute of Morphology, TSU, Tbilisi, Georgia

Background: The most common site of the congenital neuroblastomais suprarenal medulla. Cysticmetastasis to the liver is rare. Such cases can be misdiagnosed as another tumor, such a mesenchymal hamartoma, vascular and bile duct abnormalities, and even echinococcal cyst.

Methods: Here we present a rare case of 2 months old newborn boy with solid-cysticlivermass, misdiagnosed clinically as a Caroli's disease.Computed tomography revealed large solid-cystic lesion of the liver, and right suprarenal gland. Biopsy was taken frombothsites.To reveal the true nature of the tumour, routine histology and immunohistochemistry was done.

Results: Tumour had a small round cell tumour type histologic features - sheets of small round cells forming small lobules and separated by fibrovascular septa. Formation of the Homer Wright rosettes was observed. Tumour was negative for S100, Desmin, Vimentin, CD99, PanCK, GFAP, EMA, aSMA, CD43. In neoplastic cells, strong expression of the neuroendocrine markers was observed (Synaptophysin+.CD56+).Ki67positiveinmorethan 40% of cells.

Conclusion: We represent a rare case of neuroblastoma of the right adrenal gland with cystic metastasis of the liver, clinically misdiagnosed as a Caroli's disease. In cases of the liver congenital cystic lesions neuroblastoma should be considered in differential diagnosis.

MEDICAL MALPRACTICE AND PROFESSIONAL LIABILITY INSURANCE IN TBILISI (GEORGIA)- CURRENT SITUATION ANALYSE

Zaza Khachiperadze MD., PhD-Student[1,2],Lasha Loria MD., PhD., MPH,[1]
Gia Lobzhanidze MD., PhD.,ScD[1,2].
1. Georgian Medical Association; 2. Iv. Javakhishvili Tbilisi State University;

Medical malpractice and professional liability insurance is type of insurance to protect the insured's claim against the third party, that emerged as a result of his/her medical activities during the eligible professional mistake.

Medical activity always contains the risk of harm to the patient's health. But we must remember, the responsibility lies not only on medical personnel, but also on organization, as an employer.

With the increase of the public mentality in Georgia, which is noticeable for the last 2 years, the victim asks compensation from the relevant bodies for punishment of the person who caused the damage, and also payment for the damage caused by the action of the latter. Accordingly, in case of stating the medical mistake financial compensation for the damage caused by the medical staff automatically comes to the question.

In collaboration with our young colleagues from master's degree program in public health, we did doctors' interviewing by the specially-designed questionnaire. The survey was carried in Tbilisi. In sum 100 doctors participated in the survey.

On the questions:

"Are youinformed about the professional liability insurance":58% of respondents (58) answered that partially are; detail knowledge has - 21% (21);read some information about it; -16% (16); just heard about it - 4% (4); 1% of respondents find it difficult to answer.

"Do you have professional liability insurance ", most of the respondents 84% (84) answered"No"; positive answer was only 16%.

"Did you have some claims over the past 2 years?" – 11 (11%)respondents answered "YES".

"Your opinion about doctors, who insured professional liability are protected or not?"19 (19%)answered "Yes",47(47%) respondents think that partially,13 (13%) answer is negative, 21% of respondents find it difficult to answer

The Development of the medical professional liability insurance is very important and helpful for Georgian physicians. During the interview with the respondents, these doctors and their clinic staff, those had problems with the third party in past, understand the essence of insurance much more, then this doctor, who do not have such problems before.

Informing of medical society in Tbilisi regarding such kind of insurance isincomplete and its implementation process runs delayed. We think, that the interest for such kind of insurance must rise and this will cause the strengthening doctors' protection, which is vital for the modern Georgian healthcare system.

GLOMUS TUMOR OF STOMACH (CASE REPORT)

M.Mchedlishvili D. Makaridze L. Bekauri [1] K. Tsomaia
A. Natishvili Institute of Morphology, TSU

Background: A glomus tumor is a rare benign neoplasm arising from the glomus body and mainly found under the nail, on the fingertip or in the foot. They account for less than 2% of all soft tissue tumors. Glomus tumors were first described by Hoyer in 1877, while the first complete clinical description was given by Masson in 1924. A Glomus cell is a peripheral chemoreceptor, mainly located in the carotid bodies and aortic bodies, that helps the body regulate breathing. The cells have a high metabolic rate and good blood perfusion and thus are sensitive to changes in arterial blood gas tension. Gastric glomus tumor is very rare disease, the most frequent disease among gastric mesenchymal tumorsis - GIST, also we can found Schwannoma and Leiomyoma.

Method: 54-year-old patient (male), who was treated for 9 months with a stomach ulcer, admitted to the hospital with intense epigastria pain. Physical examination found out acute abdomen and bleeding. A morphological examination and immunohistochemical staining were carried out. For immunohistochemical analysis were used next antibodies (DAKO): Vimentin; Alfa SMA; CD117; CD34; CD31, CD99, desmin, Chromogranin A; Synapthofisin; S100, AE1/AE3 epithelial membrane antigen, ki67 (MIB1). We used labeled streptavidin-biotin system (Dako).

Results: In Hematoxylin & Eosin (H&E) specimen tumor cells were observed, which tumor revealed that it comprised of monomorphic cells arranged in sheets and in nests with interspersed blood vessels. These cells had a central nondescript nucleus and abundant clear cytoplasm. Each cell showed a well delineated cell membrane. Glomus tumor and carcinoid were considered as the two differentials. A diagnosis of glomus tumor was favored because of the well delineated cells and clear cytoplasm. Immunohistochemistry revealed the tumor to be positive for smooth muscle actin and collagen type IV and negative for synaptophysin, chromogranin -A, S-100, CD34, CD31, CD99, cytokeratin (AE1/AE3), desmin and epithelial membrane antigen. The proliferation marker Ki67 was positive in <2 % of tumor cell nuclei.

Conclusion: Glomus tumors of the stomach are quite rare. They usually present in the antral region and are usually submucosal. Clinically, they are often mistaken for gastrointestinal stromal tumors. Histopathologically, they need to be differentiated from neuroendocrine carcinoma Grade 1. In which immunohistochemistry is of help. They present a diagnostic dilemma to both the clinician and the pathologist.

CARDIOLOGY

INTERACTION BETWEEN NERVOUS SYSTEM AND HEART – NEUROCARDIOLOGY

Wladimir Ovtscharoff , academician, professor, DM, PhD, DMS
Department of Anatomy, Histology and Embryology, Medical University of Sofia, Bulgaria

It was established the dynamic interaction between the brain and the heart. This is two-way interaction, influencing their function. The heart has an intrinsic nervous system, which is formed from over 40,000 nerve cells, fibers and plexuses. The input to this system comes from the parasympathetic and sympathetic parts of the autonomic nervous system, which influence the heart rate control via the heart conducting system. The higher parts of the brain are two-way connected, and they modulate the activity of the autonomic nervous system. These brain parts are the cerebral cortex, the hypothalamus (cardiovascular area), the cardiovascular center in the reticular formation of the brain stem. The output from the intrinsic heart nervous system passes via the spinal nerves and ascending tracts of the spinal cord and via the vagus nerve to the bulb, diencephalon (thalamus, and hypothalamus), cerebral cortex and limbic system. This output can activate the orbitofrontal and motor cortex and could modified sensation, motivation, attention and emotions. The baroreflex and referred pain are examples of the interaction between heart nervous system.

Nowadays exists a new medical specialty neurocardiology on the base of heart-brain interaction and interplay.

INVESTIGATION OF CHANGES OF CYTOKINETIC AND CYTOGENETIC PARAMETERS IN THE EXPERIMENT UNDER THE INFLUENCE OF CANDESARTAN, CANDESARTAN CILEXETIL AND RESVERATROL

A.V. Beliayeva, researcher
The Institute of Bioorganic chemistry, NAS of Belarus, Minsk, Republic of Belarus,

Background. Steadily growing incidence of cardiovascular diseases and mortality rate provoked by this pathology urges the need to formulate new drugs, to reassess potential of available medicines and their combinations.

Purpose. To evaluate effects of candesartan, candesartan cilexetil and resveratrol on the number of stem cells, cytogenetic and cytokinetic parameters in vitro.

Methods. Bone marrow cell of male C57Bl/6 mice were used to study in vitro the influence of candesartan cilexetil (prodrug), candesartan (active form) (angiotensin-II receptor blockers) and resveratrol (natural antioxidant) in different dosages and combinations on changes in the number of endothelial progenitor cells CD117+, the number of apoptotic cells and cells with micronuclei, distribution of cells at different stages of cell cycle. Flow cytometry method was applied to determine these parameters.

Results. It was shown that candesartan cilexetil at 1.5 μg/ml dose decreased the amount of endothelial progenitor cells CD117+ in vitro as compared to the control. Candesartan at 1.5 μg/ml dose increased the number of CD117+ cells ($p<0.05$). It was found that resveratrol at 1 μg/ml, 5 μg/ml and 10 μg/ml doses didn't influence the

contents of stem cells, whereas at elevated concentrations 30 μg/ml and 50 μg/ml it significantly enhanced CD117+ cell counts in comparison with the control ($p<0.05$).

It was originally demonstrated that combination of candesartan cilexetil at 1.5 μg/ml dose and resveratrol at 30 μg/ml and 50 μg/ml doses increased the number of endothelial progenitor cells in vitro ($p<0.05$). It was the first evidence that mixed application of candesartan at 1.5 μg/ml dose and resveratrol in concentration range 1 μg/ml to 50 μg/ml considerably increased the ratio of CD117+ cells in comparison with the control ($p<0.05$).

It was found in this study that candesartan cilexetil at 1.5 μg/ml dose didn't raise the amount of cells with DNA damage. Candesartan at 1.5 μg/ml dose increased the number of apoptotic cells and cells with micronuclei when compared with the control ($p<0.05$). Resveratrol at 30 μg/ml and 50 μg/ml doses decreased cytotoxic effect of candesartan in vitro ($p<0.05$). Distribution of cells at the stages of cell cycle wasn't affected by the use of candesartan cilexetil, candesartan and resveratrol in different dosages and combinations.

Conclusion. The obtained results illustrating influence of novel combinations of candesartan and resveratrol and candesartan cilexetil with resveratrol are promising in terms of designing a new complex drug displaying neoangiogenesis activity for prevention and treatment of cardiovascular diseases.

ВОЗМОЖНОСТИ СПЕЛЕОТЕРАПИИ В ПРОТИВОРЕЦИДИВНОМ ЛЕЧЕНИИ ЗАБОЛЕВАНИЙ ОРГАНОВ ДЫХАНИЯ

Делендик Р.И., Дубовик Н.Н., Левченко П.А.
Республиканская больница спелеолечения
(г. Солигорск, Республика Беларусь)

В общем комплексе лечебно-профилактических, оздоровительных и реабилитационных мероприятий, направленных на сохранение и приумножение здоровья населения и повышение качества жизни пациентов противорецидивное лечение занимает важную нишу.

Происходящие экологические сдвиги, возрастающая загазованность воздуха, увеличение числа респираторных вирусных инфекций в настоящее время способствуют росту аллергии и болезней органов дыхания, в том числе - слизистой оболочки носа и околоносовых пазух. Распространенность аллергии в мире представляет глобальную проблему общественного здравоохранения. У 30–40% населения выявляется одно или несколько аллергических заболеваний. Согласно статистике Всемирной организации здравоохранения (ВОЗ), в мире от аллергического ринита страдают сотни миллионов людей, а от бронхиальной астмы (БА) – около 300 млн. Значительную долю пациентов составляют дети и подростки, в Беларуси БА по данным обращаемости болеет свыше 60 тыс. пациентов. Близка статистика по этому виду патологии в странах с аналогичными природно-климатическими условиями.

Актуальной проблемой аллергологии, пульмонологии и оториноларингологии в настоящее время является поиск эффективных методов воздействия на воспалительный процесс при ряде хронических заболеваний

дыхательных путей. Это БА, хроническая обструктивная болезнь легких (ХОБЛ), аллергические заболевания – риниты, поллинозы, дерматиты, хронические полипозные риносинуситы (ХПРС). Повышение эффективности лечебных мероприятий может быть достигнуто включением в схемы лечения немедикаментозных методов воздействия, в том числе подземной спелеотерапии, что позволит расширить и оптимизировать рамки современных программ лечения данных заболеваний.

Изучение заболеваемости рабочих калийного производства показало, что у лиц, работающих в условиях рудников Солигорского бассейна, низкий уровень заболеваний дыхательной и сердечно-сосудистой систем, в том числе гипертонической болезнью. Изучение среды горных выработок и анализ заболеваемости горнорабочих давали основание сделать вывод о формировании двух различных по характеру воздействия на организм человека микроклиматических зон. Специфические факторы подземной среды обладают благоприятным воздействием на организм человека, в связи с чем комплекс специфических факторов среды, формирующихся в горных выработках, не связанных с производственным процессом, используются для эффективного лечения и оздоровления методом подземной спелеотерапии. Внедрение метода подземной спелеотерапии в условиях калийных рудников осуществлялось на основе результатов научных исследований среды горных выработок и проведения комплекса организационных мероприятий.

Изучение эффективности курсового спелеолечения ряда пациентов методом анкетирования в 2016г. показало, что в 96% случаев достигается выраженный терапевтический эффект, в том числе у 95% страдающих БА, у 96% пациентов с хроническим бронхитом и 7% - поллинозами. После курса подземного спелеолечения 30% пациентов выписались со значительным улучшением и 66 % с улучшением, что подтвердили данные клинико-лабораторных исследований. Лечебный эффект подземной спелеотерапии сопровождается полным исчезновением или уменьшением признаков заболевания.

Терапевтическая эффективность спелеолечения в подземном спелеокомплексе Солигорского калийного рудника обусловлена его конструктивными особенностями, определяющими качество формирующейся лечебной среды, позволяющими длительно сохранять свои целебные свойства. Принципиальными отличиями подземной спелеолечебницы в Республике Беларусь от действующих спелеообъектов на территории ряда европейских государств являются: размещение в массиве каменной соли и калийсодержащем пласту; расположение на глубине 420 метров; выполненное по научно-обоснованному и специально- разработанному проекту; наличие воздухоподающих лабиринтов протяженностью более 2000 метров; индивидуальная система вентиляции палат; низкий уровень микробной обсемененности воздуха. Все это обеспечивает стабильность параметров микроклимата подземной среды по основным показателям, и как следствие, уникальность ее целебных свойств.

Анализ деятельности государственного учреждения «Республиканская больница спелеолечения» (Солигорск, Беларусь) за период с 1990 г. по 2016 г.

показал высокую терапевтическую эффективность подземной спелеотерапии. К концу лечения в среднем в 97,3% случаев отмечается улучшение самочувствия: у 35% пациентов - значительное улучшение, у 62,3% пациентов - умеренное улучшение, установленное комплексными клинико-лабораторными и социологическими методами. В течение года после курса подземной спелеотерапии ремиссия сохраняется в среднем 7,0±0,4 месяцев. После повторных курсов устанавливаются более длительные и устойчивые ремиссии до 2,5 – 3 лет.

Увеличение охвата подземным спелеолечением нуждающихся пациентов наиболее трудоспособного возраста произошло за счет комплексного организационного подхода к расширению коечного фонда, совершенствованию преемственности и научного обоснования расширения клинических показаний, дифференциации режимов спелеотерапии, их продолжительности с учетом характеристики слоя (галитовый или сильвинитовый) и кратности.

В условиях имеющегося разнообразия собственных природных ресурсов Республики Беларусь, отвечающих потребности в лечении заболеваний органов дыхания методом подземной спелеотерапии, создана возможность для расширения географии медицинского туризма. Закономерности становления подземной спелеотерапии на основе мировых и отечественных исследований позволили выявить ряд факторов, влияющих на качество лечения данным методом. В развитии данного метода учтены особенности, обусловленные близкими географическими и биоклиматическими условиями в странах Европейского региона.

Перспективно дальнейшее научное сопровождение метода, находящегося в русле мировых тенденций доказательной медицины, изучение и отработка эффективности различных вариантов продолжительности подземных спелеопроцедур, длительности всего курса с учетом клинической картины, исхода реабилитации, прогноза для качества жизни и медико-экономических показателей.

Научно обоснованные и установленные отличия влияния геолого-минерального состава горного массива, конструктивных особенностей объектов подземной спелеотерапии на клиническое течение БА, ХОБЛ и ХПРС позволяют считать метод спелеолечения, осуществляемый на базе Республиканской больницы спелеолечения (Солигорск, Беларусь), уникальным для европейской территории. Обоснованная потребность в подземной спелеотерапии для взрослых и детей, расширение возрастного контингента пациентов, нуждающихся в применении метода, являются серьезным научным направлением в комплексной терапии данных заболеваний.

CARDIOVASCULAR DISEASE PREVENTION RELATED TO WELL BALANCED EXERCISE

Prof. Beti Dejanova, MD, PhD
Institute of Physiology, Medical Faculty Skopje

Background. Among the most common chronic diseases that cause high rate of morbidity and mortality worldwide are cardiovascular diseases (CVDs), diabetes, some cancers, severe inflammatory and degenerative diseases, etc. According to World Health Organization, app. 17 million people annually die from CVDs. Therefore, related to CVDs prevalence it is obvious that good prevention strategy would be of high interest for health care system in general. With growing elderly population, it is even more needed to give more attention to prevention of CVDs. However, it is well known that well balanced exercise, appropriate food intake, and healthy lifestyle may contribute to less morbidity and longer life expectancy. The focus of this study is related to exercise influence in prevention of CVDs, its physiological mechanisms and adequate body response.

Methods. Research data are from Medline, EMBASE and Cochrane Central Register of controlled trails, concerning exercise and prevention of CVDs. The literature is searched by using key words: “exercise” and “chronic disease”, “exercise” and “cardiovascular diseases”. All the studies were conducted during the last decade. Regarding this, selected individual trails are approved in systematic reviews and meta-analysis and are considered as base evidence medical studies. Collected data are divided concerning different exercise actions such as: blood coagulation and fibrinolysis managing, vascular remodeling, blood pressure regulating, lipid profile normalizing, and oxidative stress stabilizing. Each action is explained on physiological basis using all relevant compensatory mechanisms for beneficial outcome of well balanced exercise.

Results. Exercise, per se, may influence on several issues on health condition such as physical and mental capacity. It has important impact in solving obesity, diminishing oxidative stress, reducing inflammation, improving immunity, etc. Thus, exercise influence on CVDs may act through regulation of blood coagulation and fibrinolysis, vascular remodeling including angiogenesis, vasculogenesis and arteriogenesis, regulating blood pressure and maintaining normal blood lipid profile, also activating antioxidative defense system. Moderate exercise can be beneficial in reducing incidence of thromboembolic disorders by enhance fibrinolitic capacity. Vascular remodeling is focused on better perfusion of tissues, diminishing detrimental effects of ischemia, using action of cytokines, endothelial growth factor and fibroblast growth factor. Well balanced exercise may prevent hypertension, and its consequences. Lipid profile changes are also considered if exercise is routinely performed such as significant reductions of LDL, especially oxidized LDL which is the main cause for foam cell plaques on vessel endothelium. Oxidative stress may be also diminished by regular exercise which may lead to better endothelium condition, due to effective antioxidative defense, lowering the free radical damage.

Conclusion. All these effects of well balanced exercise may contribute to lower the incidence of CVDs, to better quality of life and less CVDs morbidity and mortality.

Such preventive approach would not only reduce CVDs but also would contribute to reduce hospital and drug costs, burdening the health care system as well.

Key words: cardiovascular diseases; prevention; exercise.

PREVENTION OF CEREBRAL EVENTS IN RHYTHM DISORDERS. TELEMEDICINE SOLUTIONS

Dr. M. Panikyan MD, PhD
Inter Business 91, Bulgaria

Extremely high morbidity and mortality of the cardiovascular diseases in Bulgaria have been identified. Our country is leading in Europe in the incidence of ischemic heart disease (74 per 1 000) and cerebral stroke (58 per 1 000). In 2016 there are over 50 000 strokes.

Of all strokes, 87% are ischemic. Atrial fibrillation is a powerful risk factor for stroke, independently increasing risk 5-fold throughout all ages. Because the most common rhythm disorder is often asymptomatic and likely frequently undetected clinically, the stroke risk attributed to atrial fibrillation may be substantially underestimated.

Embolisms with cardiac origins cause between 17% and 30% of all ischemic strokes, but it is estimated that the causes of up to 40% of ischemic strokes are unknown. Recent developments in monitoring devices have provided more robust evidence of an association between atrial fibrillation and stroke, especially cryptogenic stroke.

Screening for to atrial fibrillation in patients with cryptogenic stroke or transient ischemic attack by use of outpatient telemetry for a longer period of time has resulted in an to atrial fibrillation detection rate of more than 20%.

Patients in our country may currently be receiving inconsistent medical advice and therapy, due to a lack of consensus on atrial fibrillation and stroke risk stratification.

We are ready to propose the hospitals and patients a telemedicine solution-telemedicine medical system and medical devices for ECG monitoring of patients for unlimited period of time. This telemedicine system showed very good results in primary and secondary stroke prevention.

Our initial activities related with medical information and implementation of the continuous monitoring telemedicine system were approached to organizing of round tables and meetings with neurologists and cardiologists in some university hospitals in Bulgaria.

Our future activities will be related with promotion and presentation of the system in other hospitals and participation in the congresses of neurology and cardiology.

Our purpose is foundation of a National centralized telemonitoring center for gathering and analysis of ECG data.

ATHEROSCLEROSIS – A SYSTEMIC DISEASE

Poredoš P.
Department of VascularDiseases, University Medical Centre, Ljubljana, Slovenia

Atherosclerosis is considered as generalised disease; therefore, patients with clinical manifestation of a particular atherosclerotic disease are likely to have concomitant preclinical or clinical atherosclerotic lesions in other vascular beds. As pathomorphological characteristics of atherosclerotic plaques in different locations are similar, most probably similar or identical ethiopathogenetic mechanisms are involved in different atherosclerotic diseases. Therefore, the effect of treatment of risk factors on atherosclerotic lesions in different parts of a vascular system is expected. Particularly peripheral arterial disease (PAD) is indicator of widespread atherosclerosis and is frequently associated with coronary and cerebrovascular disease. Therefore, in these patients survival is on average shorter than in those without PAD.

While a great emphasis has been placed on the aggressive pharmacological management of coronary artery disease, less attention has been devoted to the prevention and pharmacological management of cerebrovascular and much less to peripheral arterial disease; despite their significant morbidity and mortality. In the last decade the data from some trials and from subgroup analyses have indicated that treatment of patients with antiplatelets drugs, statins and ACE inhibitors prevent the progression of local disease, reduce cardiovascular events and improve prognosis in coronary, cerebrovascular and peripheral arterial occlusive disease. However, there are some data that the effect of preventive procedures is to some extent dependent on different locations of atherosclerotic disease. Thus, metaanalysis from the TrialistsCollaboration showed that preventive effect of aspirin in different atherosclerotic diseases differ with higher efficacy in the coronary bed. The data from the CAPRIE trial have indicated that clopidogrel is most convincing in PAD. Antihypertensive drugs, especially ACE inhibitors, are probably most effective in the prevention of cerebrovascular incidents. Benefit of statins in secondary prevention of cardiovascular events is most probably comparable in different vascular territories, including cerebrovascular disease. However, no effect has been registered on stroke recurrence in patients with pre-existing cerebrovascular disease. Further it has been shown that in PAD patients statins probably have some additional hemodynamic effects and independently on cholesterol reduction improve functional capability and the quality of life in those patients.

In spite of some differences in the extent of the effects of the preventive measures used in treatment of different atherosclerotic diseases it is possible to prevent cardiovascular events and improve prognosis in patients with atherosclerosis in different vascular territories.

BILE DUCT EQUIVALENT CREATION FROM DECELLULARIZED UMBILICAL CORD ARTERY

Manana Kakabadze – MD, PhD, The Head Scientist. TSU- AexandreNatishvili Institute of Morphology
K Chakhunashvili, MD, PhD-student, Tbilisi State Medical University, Tbilisi, Georgia.

Background: Treatment of bile duct lesions is a major challenge in surgery. Up to this day multiple biologicand artificial materials have been used to reconstruct damaged bile duct. The current work is about using three dimensional scaffold seeded with isolated cholangiocytes for creation of common bile duct equivalent.

Methods: The placentas have been acquired from healthy women who gave birth at 38-42 week and after signing written consent. Placenta was decellularized with SDS and triton X-100 solution. Cholangiocytes were isolated and seeded onto arteries in bioreactor with required environment.

Results: Although, cholangiocytes showed some proliferation in bioreactor bile duct equivalent creation still needs to be polished to ensure correct differentiation and growth of bile duct epithelium.

Conclusion: Based oncurrent results, we can say that decellularized human umbilical cord and placental arteries together are a good scaffold for bile duct equivalent creation, which in the future may be used for bile duct reconstruction.

КОНТИНГЕНТЫ ВЗРОСЛОГО НАСЕЛЕНИЯ, СОСТОЯЩИЕ НА ДИСПАНСЕРНОМ УЧЕТЕ ВСЛЕДСТВИЕ БОЛЕЗНЕЙ СИСТЕМЫ КРОВООБРАЩЕНИЯ В РЕСПУБЛИКЕ БЕЛАРУСЬ

Т.Н. Глинская (доцент, к.м.н.) [1], М.В. Щавелева (доцент, к.м.н.) [2]
[1]Республиканский научно-практический центр трансфузиологии и медицинских биотехнологий, [2]Белорусская медицинская академия последипломного образования, Минск, Республика Беларусь

Введение. Одной их основных целей диспансеризации является выявление и минимизации рисков развития и/или прогрессирования хронических заболеваний. В Республике Беларусь взятию на диспансерный учет подлежат пациенты, имеющие в анамнезе факторы риска хронических заболеваний; хронические заболевания в стадии ремиссии без нарушений функций органов и систем; острые заболевания с рискомхронизации; хронические заболевания с нарушениями функций органов и систем и (или) периодическими обострениями. В структуре причин взятия на диспансерный учет лиц старше 18 лет лидируют болезни системы кровообращения, удельный вес которых в 2016 году составил 38,2% всех случаев, а интенсивный показатель достиг21375,19±565,9$^0/_{0000}$.Планирование и оценка диспансерной работы требуют обязательного анализа динамики численности лиц,состоящихна диспансерном учете.

Материалы и методы. С целью оценки в динамике численности диспансерных контингентов Республики Беларусь приболезнях системы

кровообращения проанализированы официальные статистические данные о заболеваемости ичисле лиц в возрасте18 лет и старше, состоящих на диспансерном учете, о числе умерших от болезней системы кровообращения, о численности населения за 2011-2016 годы.Рассчитывались интенсивные показатели ($^0/_{0000}$),изучался среднегодовой уровень численности контингетов иего структура, проводилась оценка достоверности различий в динамике.

Результаты. Показатель численности диспансерного контингента по причине болезни системы кровообращения вырос за пять лет на 21,2% (p <0,05), на диспансерном учете в 2016 годусостоял каждый пятый взрослый житель, в структуре причин взятия на диспансерный учет лидировали болезни, характеризующиеся повышенным кровяным давлением – 43,2%, ишемическая болезнь сердца – 41,2% и цереброваскулярные болезни – 10,1%. За анализируемый период произошел достоверный рост (p <0,05) численности диспансерных контингентов:при болезнях, характеризующиеся повышенным кровяным давлением, показатель вырос на 24,9%, достигнув к 2016 году значения 9499,97±11,2$^0/_{0000}$; приишемической болезни сердца–на 19,1% (8719,2±10,7$^0/_{0000}$); для цереброваскулярных болезней– на 8,7% (1980,7±5,1$^0/_{0000}$). Рост численности диспансерных контингентов сопровождался достоверным (p <0,05) снижением смертности от перечисленных причин (за исключением ишемической болезни сердца, для которой наблюдалась лишь тенденция к снижению показателя): для цереброваскулярных болезней – на 18,1% (уровень смертности в 2016 г. – 1,7±0,02‰); дляболезней, характеризующиеся повышенным кровяным давлением, – на 61,8% (0,017±0,001‰); для класса болезней системы кровообращения – на 5,2% (8,60±0,03‰).

Заключение. Ростчисленностидиспансерного контингента отражает не только прирост заболеваемости, но и сопровождаетсяснижением рисков летальных исходов за счетсвоевременного и эффективного проведения профилактических и лечебных мероприятий, приверженности пациентов лечению и рекомендованному образу жизни.

УРОВЕНЬ 25(OH)D И ПОКАЗАТЕЛИ СУТОЧНОГО МОНИТОРИРОВАНИЯ АРТЕРИАЛЬНОГО ДАВЛЕНИЯ У ЖЕНЩИН С АРТЕРИАЛЬНОЙ ГИПЕРТЕНЗИЕЙ В РАННЕМ ПОСТМЕНОПАУЗАЛЬНОМ ПЕРИОДЕ

Л .Кежун, к.м.н, Л. Янковская к.м.н., доцент
Гродненский государственный медицинский университет, Гродно, Беларусь

Цель. Оценить уровень витамина D – 25(OH)D в плазме и показатели суточного мониторирования артериального давления (СМАД) у женщин с артериальной гипертензией (АГ) II степени в раннем постменопаузальном периоде.

Материал и методы. Обследовано 52 женщины с АГ II степени риск 3 в возрасте 52 (50; 54) лет, находящихся в раннем (до 5 лет) постменопаузальном периоде – группа I. Методом иммуноферментного анализа определяли уровень 25(OH)D в плазме крови. В группе I была выделена подгруппа IБ (n=21) с

дефицитом/недостаточностью витамина D (с уровнем 25(OH)D<30нг/мл) и подгруппа IA (n=31) без дефицита витамина D. СМАД проводилось аппаратом Watch BP 03 фирмы «Microlife» на нерабочей руке. Статистическая обработка результатов исследования осуществлялась с помощью пакета прикладных программ «STATISTICA 10.0».

Результаты. Подгруппы IA и IБ были сопоставимы (p>0,05) по возрасту, индексу массы тела, длительности АГ и постменопаузального периода, приёму антигипертензивной терапии. Уровень 25(OH)D был ниже (p<0,05) в подгруппе IБ по сравнению с подгруппой IA (18,2±9,5 нг/мл и 27,4±10,5 нг/мл, соответственно). В подгруппе IБ 61,9% женщин имели дефицит витамина D, 38,1% - недостаточность. В подгруппе IБ по сравнению с подгруппой IA были выше (p<0,05) значения следующих показателей СМАД: средненочного диастолического (ДАД) – 73,0 (69,0;79,0) мм рт. ст и 68,8±7,4 мм рт. ст.; индекса времени (ИВ) ДАД ночью – 14,3 (12,5;33,4)%, и 12,5 (0,0;12,5)%; скорости утреннего подъёма (СУП) ДАД – 16,5 (11,0;22,0) мм рт. ст./ч. и 10,0 (8,5;17,3) мм рт. ст./ч.; вариабельности систолического (САД) днём – 36,0 (29,0;43,0) мм рт. ст и 25,0 (22,0;38,0) мм рт. ст., соответственно. ИВ ДАД ночью превышал пороговое значение у 42,9% женщин в подгруппе IБ против 17,2% (p=0,05) обследуемых в подгруппе IA. СУП ДАД в подгруппе IБ в 81% случаев не соответствовала норме по сравнению с подгруппой IA – 37,9% (p=0,004). Исходно по средним значениям суточного индекса (СИ) САД и СИ ДАД подгруппы IA и IБ не отличались (p>0,05). Однако, патологический СИ САД, соответствующий категории non-dippers, в 1,5 раза чаще встречался в подгруппе IБ и составил 74,1%**,** по сравнению с подгруппой IA – 48,2%. Напротив, нормальный СИ САД, соответствующий категории dippers, встречался 1,3 раза реже в подгруппе IБ (23,3%) по сравнению с подгруппой IA (31%). Патологический СИ ДАД, соответствующий категории non-dippers в 1,4 раза чаще встречался в подгруппе IБ по сравнению с подгруппой IA (42,9% и 31%) и категории night-peakers (9,4 % и 6,9%), соответственно. Установлены обратные умеренные корреляционные взаимосвязи в подгруппе IБ между исходным уровнем 25(OH)D в плазме крови и рядом показателей СМАД: средненочным САД (R=-0,37, p=0,004), ИВ САД ночь (R=-0,42, p=0,04), средненочным ДАД (R=-0,43, p=0,03), ИВ ДАД ночь (R=-0,39, p=0,05).

Заключение. Уровень 25(OH)D плазмы крови взаимосвязан с показателями СМАД. При дефиците/недостаточности уровня 25(OH)D превышение ряда показателей СМАД встречалось чаще, чем при оптимальном его уровне у женщин с АГ II степени в раннем постменопаузальном периоде.

INVESTIGATION OF CHANGES OF CYTOKINETIC AND CYTOGENETIC PARAMETERS IN THE EXPERIMENT UNDER THE INFLUENCE OF CANDESARTAN, CANDESARTAN CILEXETIL AND RESVERATROL

A.V. Beliayeva, researcher
The Institute of Bioorganic chemistry, NAS of Belarus, Minsk, Republic of Belarus

Background. Steadily growing incidence of cardiovascular diseases and mortality rate provoked by this pathology urges the need to formulate new drugs, to reassess potential of available medicines and their combinations.

Purpose. To evaluate effects of candesartan, candesartan cilexetil and resveratrol on the number of stem cells, cytogenetic and cytokinetic parameters *in vitro*.

Methods. Bone marrow cell of male C57Bl/6 mice were used to study *in vitro* the influence of candesartan cilexetil (prodrug), candesartan (active form) (angiotensin-II receptor blockers) and resveratrol (natural antioxidant) in different dosages and combinations on changes in the number of endothelial progenitor cells CD117+, the number of apoptotic cells and cells with micronuclei, distribution of cells at different stages of cell cycle. Flow cytometry method was applied to determine these parameters.

Results. It was shown that candesartan cilexetil at 1.5 μg/ml dose decreased the amount of endothelial progenitor cells CD117+ *in vitro* as compared to the control. Candesartan at 1.5 μg/ml dose increased the number of CD117+ cells ($p<0.05$). It was found that resveratrol at 1 μg/ml, 5 μg/ml and 10 μg/ml doses didn't influence the contents of stem cells, whereas at elevated concentrations 30 μg/ml and 50 μg/ml it significantly enhanced CD117+ cell counts in comparison with the control ($p<0.05$).It was originally demonstrated that combination of candesartan cilexetil at 1.5 μg/ml dose and resveratrol at 30 μg/ml and 50 μg/ml doses increased the number of endothelial progenitor cells *in vitro* ($p<0.05$). It was the first evidence that mixed application of candesartan at 1.5 μg/ml dose and resveratrol in concentration range 1 μg/ml to 50 μg/ml considerably increased the ratio of CD117+ cells in comparison with the control ($p<0.05$).It was found in this study that candesartan cilexetil at 1.5 μg/ml dose didn't raise the amount of cells with DNA damage. Candesartan at 1.5 μg/ml dose increased the number of apoptotic cells and cells with micronuclei when compared with the control ($p<0.05$). Resveratrol at 30 μg/ml and 50 μg/ml doses decreased cytotoxic effect of candesartan *in vitro* ($p<0.05$). Distribution of cells at the stages of cell cycle wasn't affected by the use of candesartan cilexetil, candesartan and resveratrol in different dosages and combinations.

Conclusion. The obtained results illustrating influence of novel combinations of candesartan and resveratrol and candesartan cilexetil with resveratrol are promising in terms of designing a new complex drug displaying neoangiogenesis activity for prevention and treatment of cardiovascular diseases.

INFLUENCE OF REMOTE ISCHEMIC PRECONDITIONING UPON KIDNEY FUNCTION IN PATIENTS AFTER CARDIAC SURGERY

N BakalovaMD, V Manolova MD, R Enev MD, N Hristova MD, G Nachev MD.Sc.Med. PhD Prof.
Univercity Hospital "Saint Ekaterina", Sofia, Bulgaria

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Objective: Acute kidney injury (AKI) is not a rare event in patients after cardiac surgery and so far no therapy has been identified to reduce the incidence of this complication. According to some authors remote ischemic preconditioning (RIPC) may reduce the rate and/or the degree of AKI in those patients.

Aim of the study: Toinvestigate the influence of RIPC on the incidence and severity of AKI in patients following cardiac surgery

Methods: 176 high-risk cardiac surgery patientsoperated on from November 2015 until September 2016 were randomized into two groups. In 87 patients, the study group, RIPC was carried out after induction of anesthesia in three sequential cycles of a 5 minute inflation of a blood pressure cuff on one arm followed by a 5 minute rest. In 89 patients, the control group, the same cycle of inflation and rest was applied, but the cuff was inflated up to only 20 mm Hg.The main endpoint was the development of AKI up to 3-th day postoperatively according to the RIFLE criteria, and the need for renal replacement therapy (RRT).Additional endpoints were length of stay in the ICU, duration of mechanical ventilation and hospital mortality. The serum creatinine level was tested preoperatively and daily after surgery. A single test ofNGAL in blood and KIM-1 in urine were performed on the second hour after the end of bypass.

Results: We found a difference in themean values of KIM-1 and NGAL between the study group (KIM-1- 0,525ng/ml; NGAL-318,8 ng/ml) and the control group (KIM-1- 0,572 ng/ml; NGAL- 329,8 ng/ml, $p<0,001$). No difference was found in the mean values of creatinine: 114,3µmol/l for the study group and 117,2µmol/l for the control group, $p=0,77$. The AKI stage assessed according to the RIFLE classification did not differ significantly between the two groups on the 24^{th}, 48^{th} and 72^{nd} hour. The incidence of RRT initiated by the end of the third postoperative day was comparable in the two groups: 11 patients in the RIPC group versus 10 patients in the control group, $p=0,76$. NGAL is a good predictorfor the initiation of RRT at 72 hours postoperatively: AUC of 0,79 in the RIPC group and 0,78 in the control group was found. No statistically significant difference was found between the two groups in terms of duration of mechanical ventilation, ICU length of stay and 30-day mortality.

Conclusion: In this single center prospective study among high-risk cardiac surgery patients the application of RIPC did not change the incidence or degree of AKI according to the RIFLE criteria in the first 72 hours. The changes in the biomarkers KIM-1 and NGAL were not unidirectional. The value of NGAL postoperatively can be used as a predictor for the need for RRT in the first 72 hours postoperatively. The effect of RIPC on reducing the need for RRT in those patients requires further investigation.

HOW LOW IS LOW ENOUGH

Prim. Matija Cevc, Dr. med,
Dep. For vascular diseases, University Clinical Centre Ljubljana, Slovenia

Introduction: Cholesterol is one of the key building blocks of all animal cells and thus also of human cells. About 30% of the cell membrane is cholesterol. It is essential for building and maintaining membranes and modulates membrane fluidity overthe range of physiological temperatures.Each animal cell is capable of own cholesterol synthesis. In addition, cholesterol is also a precursor for the biosynthesis of steroid hormones, bile acids, and vitamin D.

History: We live in a world very different from that for which we are genetically adapted. Evidence from hunter-gatherer populations while they were still following their indigenous lifestyles showed no evidence for atherosclerosis, even in individuals living into the seventh and eighth decades of life. These populations had total cholesterol levels of 2,6 to 3,8mmol/L with estimated low density lipoprotein (LDL)cholesterol levels of about1,3 to 1,9 mmol/L[1]. The LDL levels of healthy neonates are even today in the range of 0,78 -1,8mmol/L[2]. Healthy, wild, adult primates show LDL levels of approximately 1,03 to 2,07mmol/L.Modern humans are the only mammals, excluding some domesticated animals, with a mean LDL level over 1,8 mmol/L and a total cholesterol over 4,14. Thus, although LDL level of 1,3 to 1,8mmol/L seems excessively low by modern standards, it is precisely the normal range for individuals living the lifestyle and eating the diet for which we are genetically adapted.

Epidemiology: In 1972 started a prospective observational Urban Shanghai, China study based on 8-13 years of follow - up of subjects in a population with low cholesterol concentrations. 9021 Chinese men and women aged 35-64 at baseline were included. Main outcome measure was death from coronary heart disease(CHD) and other causes. The average serum total cholesterol concentration was 4,2 mmol/L at baseline. Only 43 (7%) of the deaths that occurred during 8-13 years of follow up were attributed to CHD.[3]CHD mortality in China has increased dramatically since the 1980s, particularly in urban populations. In Beijing between 1984 and 1999, CHD mortality rates increased by 50% in men and by 27% in women aged 35 to 74 years. With the use of IMPACT model it was shown, that most of this rise can be attributed to substantial increases in total cholesterol levels, regardless of the method and coefficients used.[4]

Genetics: There are genes that have been reported to be associated with lower LDL levels.Each of the sevariants is inherited randomly at the time of conception in a process sometimes referred to as Mendelian randomization.Inheriting an LDL lower ingallele is analogous to being randomly allocated to treatment with an LDL-lowering therapy, while inheriting the other allele is analogous to being randomly allocated to ‘usual care’.Mendelian randomization studies have consistently demonstrated that variants in over 50 genes that are associated withl ower LDL levels (but not with other potential predictors or intermediates for atherosclerosis) are also associated with a correspondingly lower risk of CHD thus providing powerful evidence that LDL is causally associated with the risk of CHD. Indeed, when the effect of each LDL variant is plotted against its effect on CHD, there is a continuous,dose-dependent, and log-linear causal association between the magnitude of the absolute change in LDL level and the lifetime risk of CHD.[5]

Lowering LDL: Clinical trials with statins and other lipid-regulating therapies have conclusively shown that lowering LDL decreases both morbidity and mortality from CHD and other vascular diseases.[6]Meta-analysis of statin trials in the Cholesterol Treatment Trialists' (CTT) Collaboration data base compared the effects of statin therapy between women and men from 22 trials of statin therapy versus control (n=134 537) and five trials of more-intensive versus less-intensive statin therapy (n=39 612).Among individuals with an estimated 5 year risk of major vascular events of less than 10%, each 1 mmol/L reduction in LDL statin therapy significantly reduced the risk of major vascular events by 35% in men and 26% in women and yielded a 9% decrease in all-cause mortality per 1 mmol/L reduction in LDL in both sexes.[7]

Very low LDL and atherosclerosis

In clinical trial GLAGOV in which 968 patients with coronary disease were treated with the proprotein convertase subtilisin kexin type 9 (PCSK9) inhibitor evolocumab or placebo monthly for 76 weeks and underwent serial intravascular ultrasound determination of coronary atheroma volume, lower LDL levels were observed in the evolocumab group (0.95 mmol/Lvs2.41 mmol/L), which also was associated with a reduction in percent at heroma volume for evolocumab (−0.95%) but not placebo (+0.05%) and a greater percentage of patients demonstrating plaque regression (64.3% vs 47.3%).[8]

Very low LDL and CVD

Recently results from the FOURIER study were published. In this placebo-controlled trial in 27.564 patients with previous myocardial infarction, is chaemic stroke or symptomatic peripheral vascular disease and LDL ≥1.81mmol/L or a non-HDL-C ≥2.59mmol/L on optimized statin therapy, patients were randomised to receive evolocumab 140mg every 2 weeks or 420mg every month or placebo.The addition of evolocumab to statin therapy resulted in a significant 59% reduction in LDL levels with evolocumab, as compared with placebo, from a median baseline value of 2.4 mmol/L to 0.78 mmol/L and reduction of 15% in the primary composite end point(composite of cardiovascular death, myocardial infarction,stroke, hospitalization for unstable angina, or coronary revascularization) and 20% reduction in the secondary end point (composite of cardiovascular death, myocardial infarction, or stroke). There was a consistent benefit across all subgroups, including those on high-intensity statin and with a low LDL at baseline (median 1,9 mmol/L).The median duration of follow-up was 2.2 years.[9]

Very low LDL and safety

There was a lot of concerns regarding safety of very low LDL. In a pre specified analysis of 15 281 patients enrolled in IMPROVE-IT, patients achieving a LDL-C level of less than 0.78 mmol/L at 1 month after acute coronary syndrome had a similar safety profile (and numerically the low estrate of cardiovascular events) over a 6-year period as compared with patients achieving higher LDL-C concentrations.[10]

Conclusions: Recent studies have unequivocally shown that cholesterol is not only a risk factor for CVD, but is a cause for it. There are numerous data confirming the view that LDL reduction is beneficial and safe. Both epidemiological and intervention studies prove that the lower the level of cholesterol, the greater the benefit. It appears to be safe and without significant adverse effects if LDL is lowered below 1 mmol/L.

ENDOVASCULAR TREATMENT OF FEMORO-POPLITEAL SEGMENT WITH SUPERA PERIPHERAL STENT SYSTEM

Il. Petrov, MD, PhD; Assoc. prof. V. Govedarski, MD, PhD; S. Dimitrov, MD; Prof. T. Zahariev, MD, PhD, DSc; Prof. G. Nachev, MD, PhD, DSc
University Hospital "St. Ekaterina", Sofia, BulgariaDepartment of CardioVascular Surgery, Medical University of Sofia, Bulgaria

Introduction: Endovascular treatment for atherosclerotic obstructions in femoro-popliteal arteries is widely used for patients with intermittent claudication and critical limb ischemia, although the optimal treatment of the popliteal artery in these patients is a matter of continuing debate.

Materials and Methods: In our 1 year study we used Supera peripheral stent system – dedicated for femoro-popliteal segment because mimics the natural structure and movement of the vessel. Optimizes luminal gain: maintains a round open lumen in challenging anatomy and provides strength and flexibility for a durable solution. Supera has more than 4x compression resistance than standard nitinol stents and high fracture resistance. Also has minimal chronic outward force and works well in calcified lesions.

Results: Our patients cohort was established from 37 cases. Most of the them (62.2%) were in Fontaine 2B class with severe claudication. Total occlusions were occur in 45.9% of the cases and severe calcification in 40.5%. Lesion length was 67.1 ± 12 mm. We used antegrade approach, intraluminal passage of guidewire, PTA with DEB and Supera stent implantation in 37 cases of flow-limiting dissection or residual stenosis over 50%. In 3-month follow up we had primary patency rate of 97.3% (36/37). In 1 patient we observed acute stent thrombosis due to cessation of antiplatelet treatment because of GI bleeding on the 3rd month. The patient had an autovenous distal bypass constructed.

Conclusion: Our initial results with Supera stent are successful in terms of patency and safety, with promising results in complex lesions.In our experience, good pre-dilation and tutored learning curve are necessary. Longer follow-up and larger study are needed.

VARIA

PILOT STUDY OF B-THALASSEMIA CAREERS IN THE REGION OF KARDZALI TOWN - MEDICAL AND SOCIAL ASPECTS

Violeta Yordanova, Todor Tcherkezov
Molecular-genetics laboratory, MBAL "Dr. Atanas Dafovski" Kardzali

Beta thalassemia is one of most common genetic disorders with heavy consequences around the world. To this point in Europe and the USA there are more than 10 000 homozygous carriers. Their numbers constantly decreases, which is due to the successful genetic programs, designed to the specific gene pools of the populations and the territorial specifics of each region in the world. The disease is linked to the malaria and the spread of the mosquitoes: in the regions of Mediterranean, North Africa, Middle East, Arabian peninsula, India, Indonesia. In those regions the frequency of the carriers varies between 0.1% in East Europe to 16% in Cyprus, and the frequency of the affected fetuses of 1000 pregnancies varies from 0.0003 to 5.12 in Cyprus. Clinically the disease is a type of an anemia with 3 basic forms: thalassemia major - homozygous for heavy mutations; thalassemia intermedia - most likely complexed heterozygous for heavy or light mutation or very rare heterozygous for heavy mutation in the presence of defects in other modifying genes; thalassemia minor - heterozygous for heavy mutations in the presence of defects in other modifying genes. Basically in heterozygous carriers there are no clinical signs observed.

Patients: Due to the territorial spread of the disease the increased occurrence of the carriers, as well as the particular clinical signs of this particular anemia should be expected in the region of the East Rodopi Mountain and around the town of Kardzali. Our focus was towards our patients pregnant women admitted at the hospital for active treatment in Kardzali.

Materials and methods: Blood samples from pregnant women, admitted at the MBAL "Dr. Atanas Dafovski" were obtained for investigating of thalassemia. From native samples erythrocytes were homogenized with hypotonic sterile solution and to that loading buffer added to load on a vertical gel to run electrophoresis (bioRad) with protein marker. The gels were then dyed with Comassie blue, destained and the bands were read with the imaging system, transferred images converted with the software and the hemoglobin fractions were calculated in percentage. **Results:** Of the total 97 women studied the carriers were found to be 4, which was 4,1% and is statistically significant. They all were patients of the Gynecological Division of MBAL "Dr. Atanas Dafovski" and this study was conducted as mandatory package with the rest of the blood testing. There were no data for the patient's gestational week, as well as their reasons to be hospitalized. Due to the specifics of the region in terms of ethnicity, we have data with turkish prevalence 70.1% and 29.9% bulgarian. All the carriers in the study were found to be of bulgarian ethnicity.

Discussion: From the pilot study conducted in brief period of time is clear the region is endemic in terms of thalassemia, as it was presumed so far. There are published data for similar investigations, but in the sense of the contemporary medicine we do not have enough information for the carriers of the population in the region, as well as the family history. We need a lot more broad, in depth investigations that will not only support and help the diagnostics, care and the treatment of the patients, but tracing of the carriers, establishment of a unified registry for family carriers, moreover more in

depth molecular analysis of the description of each mutation and their frequency in the region.

CORRECTIONAL APPROACHES TO IRREGULAR MANUAL WRITING SKILLS AT CHILDREN WITH SLI

Lilia Yancheva, Martin Marinov , Krasimira Staneva, Stoimen Stoimenov

Manual abilities are important functional skills to carry out a number of activities with pencil and paper, such as drawing, painting, coloring and writing. These activities require the presence of adequate potentialities for motor planning, cognitive and perceptual skills, preserved sensory abilities, visual-motor integration, proper posture and positioning of the body in space. An important factor to perform manual activities is also the correct grip on the means of writing.

The purpose of the present study is to explore the manual skills and to correct the wrong types of grips in children of preschool age. A total of 114 children aged 4 to 7.2 years, divided into two groups -the first - children with SLI-26 children, and the second children within the norm -88 children.

Methodology -manual skills are tested with the I. Lesniy test (1987), while the study of the grips is carried out by standard methodology. For correction of incorrect grips ergo-therapeutical activities have been applied.

Results and analysis of results. Analysis of the results shows that 58% of children with SLI have incorrect grip. Children within the norm were observed with incorrect grip only in 9% of them.

The implementation of the rehabilitation program reduced the irregular grip.

ALLERGEN SPECIFIC IMMUNOTHERAPY/VACCINATIOM OF ATOPIC ALLERGIC DESEASES

Academician Bogdan Petrunov,MD, PhD,DSc,
Bulgarian Academy of Sciences, NCIPD, Sofia

Aim of the study is to discuss the most advanced approaches for carrying out the allergen vaccination, its immunological mechanisms and to present part of the clinical and immunological studies of the author in this field during the last 25 years.

The study is realized on 618 allergic patients with bronchial asthma, allergic rhinitis and insect allergy carrying out allergen vaccination during 3 years with allergens from house dust mite, grass pollen and bee venom. Before and after the treatment were determined in the patients: symptom/medication score, VAS, size of skin-allergic reactions, the level of allergen- specific IgE and IgG4 / “blocking” antibodies /, the level Il-2,-4,-5,-10, TNF-α, γ– Inter., the level of allergen induced basophile degranulation.

Results show that about 75% of the treated patients got very good clinical effect **with decrease of:** symptom/medication score, VAS, the level of specific IgE , Il-4 and γ-Inter. as well as the level of basophile degranulation, simultaneously **with increase of**: allergen specific IgG4 and the level of Il-10.

Conclusion. The presented data are in support of the contemporary understanding that not less than 70% of the allergic patients subject of allergen vaccination – allergen specific immunotherapy / ASI / got very good and stable clinical results during 10 years with modulation of the immune reactivity from Th2 to Th1 type.

ТЕХНОЛОГИЧЕСКИЕ РЕЖИМЫ РАННЕЙ ТЕЛЕМЕДИЦИНСКОЙ ДИАГНОСТИКИ

В.Н. Ростовцев, доктор медицинских наук, профессор
Т.И. Терехович кандидат медицинских наук, доцент
Республиканский научно-практический центр медицинских технологий, информатизации, управления и экономики здравоохранения, Минск, Беларусь

В современных условиях конечная эффективность здравоохранения очень сильно зависит от доступности для населения возможностей ранней диагностики распространенных заболеваний, а также от доступности средств мониторинга состояния хронически больных пациентов. Специалисты достаточно давно осознали, что радикальное решение проблемы доступности средств ранней диагностики и мониторинга состояния лежит в плоскости развития методов и средств телемедицинской диагностики и практически во всех крупных странах имеются исследовательские программы по телемедицине. Вместе с тем, существующие технологические предложения касаются исключительно измерений одного или нескольких косвенных показателей, как правило, недостаточных для формулирования нозологического заключения.

Возможности ранней телемедицинской диагностики предоставляет технология Функциональной спектрально-динамической диагностики (ФСД-диагностики) на основе сетевой версии Комплекса медицинского спектрально-динамического (КМСД), который производится в Республике Беларусь и в Российской Федерации. Информация о ФСД-диагностике имеется на сайтах производителей КМСД [www.kmsd.by и www.kmsd.su].

ФСД-диагностика основана не на измерениях а на распознавании образов процессов, в том числе и нозологических процессов, при этом распознавание различных процессов в организме проводиться по волновой (спектрально-динамической) компоненте протекающих процессов.

В понятие ранней телемедицинской диагностики мы включаем удаленную диагностику ранних стадий развития патологических процессов, а также иных неблагоприятных процессов, например, процесса истощения иммунной системы.

К ранним стадиям развития патологических процессов относятся:

– стадия начальных нозологических проявлений, то есть стадия появления первых симптомов заболевания;

– латентная (скрытая) стадия развития патологического процесса;

– стадия формирования актуального индивидуального риска развития патологического процесса.

Иными словами, в понятие ранней телемедицинской диагностики входят ранняя нозологическая диагностика и донозологическая диагностика, а также

ранняя ненозологическая диагностика, то есть диагностика неблагоприятных или опасных (например, для водителей транспортных средств) физиологических процессов.

Дополнительно ФСД-диагностика обеспечивает выявление актуальных и активных этиологических агентов (то есть конкретных вирусов, бактерий, грибков, микропаразитов и гельминтов), а также диагностику комплементарности лекарственных средств и продуктов питания. В случае лекарственного средства комплементарность означает его индивидуальную эффективность, а в случае продукта питания комплементарность означает его индивидуальную полезность для организма.

Для каждого из трех видов ранней телемедицинской диагностики (нозологической, донозологической и ненозологической) в рамках возможностей технологии ФСД-диагностики существует по четыре режима технологической реализации:

1. Режим автоматической телемедицинской ФСД-диагностики. Реализуется с помощью размещаемых на сервере Систем автоматической диагностики (САД). Надежность диагностики в автоматическом режиме составляет 85 – 87 %. САД обеспечивают одновременно минимальное время и минимальную стоимость медицинской теледиагностики и это позволяет пациенту регулярно контролировать свое здоровье или свое заболевание и получать своевременные рекомендации, в том числе рекомендации посещения врача.

2. Режим телемедицинской ФСД-кспресс-диагностики. Реализуют путем удаленной врачебной спектрально-динамической экспресс-диагностики. Надежность спектрально-динамической экспресс-диагностики составляет 88 – 90%.

3. Режим углубленной телемедицинской ФСД-диагностики. Реализуют путем удаленной врачебной ФСД-диагностики. Надежность обычной (углубленной) ФСД-диагностики составляет 93 – 95%.

4. Режим телемедицинского онлайн-консультирования на основе ФСД-диагностики. Реализуют путем онлайн-диалога пациента и врача на основе углубленной телемедицинской ФСД-диагностики. Этот режим сочетает возможности третьего режима и возможности онлайн-формирования для пациента не только рекомендаций, но и медикаментозных назначений на основе диагностики комплементарности (то есть индивидуальной эффективности) фармакологических или иных лечебно-профилактических препаратов.

Перечисленные режимы ранней телемедицинской ФСД-диагностики позволяют неинвазивно, пассивно (то есть без какого-либо воздействия на организм) и оперативно (время на запись волнового сигнала от поверхности кожи пациента и его передачи на сервер не превышает одной минуты) и осуществлять раннюю диагностику распространенных заболеваний и различных состояний по всем системам организма.

Разумеется, что технологии телемедицинской ФСД-диагностики находятся в начале своего развития, но это обстоятельство не умаляет их значимости для повышения конечной эффективности здравоохранения.

РЕАЛИЗАЦИЯ ДЕМОГРАФИЧЕСКОЙ ПОЛИТИКИ В РЕСПУБЛИКЕ БЕЛАРУСЬ

Топчий Е.Н.[1]
Терехович Т.И.[2], кандидат медицинских наук, доцент
[1]Учреждение здравоохранение «Жлобинская центральная районная больница», Жлобин, Беларусь
[2]Республиканский научно-практический центр медицинских технологий, информатизации, управления и экономики здравоохранения, Минск, Беларусь

В демографической сфере главным приоритетом государственной политики Республики Беларусь является всестороннее стимулирование рождаемости, обеспечивающее расширенное воспроизводство населения. Повышение престижа крепкой семьи и совершенствование системы поддержки семей с тремя и более детьми – принципиально важные направления обеспечения демографической безопасности.

Важными задачами для страны остается снижение смертности, увеличение продолжительности жизни населения, охрана здоровья матери и ребенка, сохранение репродуктивного и общего здоровья населения.

Основой демографической политики Республики Беларусь является демографическая безопасность государства. Она характеризуется сложившейся демографической ситуацией в стране.

Демографическая политика представляет собой деятельность республиканских органов государственного управления и социальных институтов, направленную на создание устойчивых количественных и качественных параметров воспроизводства населения.

Для адекватной характеристики демографической ситуации важно учитывать несколько условий. Существенным является выбор временного периода, за который анализируется динамика демографических процессов. Он должен быть достаточно продолжительным с тем, чтобы выявить основные тенденции, которые на малом временном отрезке могут искажаться случайными годовыми колебаниями. Кроме того, необходимо учитывать периоды резких колебаний демографических процессов, обусловленных социально-экономическими сдвигами в обществе и государстве, иначе, взяв за точку отсчета годы резких подъемов или спадов показателей, можно получить искаженное представление о тенденциях (рост или сокращение рождаемости, смертности и т.д.).

С целью объективизации качественной оценки ситуации следует проводить сравнительный анализ основных демографических параметров в анализируемой территории с определенным стандартом. Для территорий Республики Беларусь в качестве такого стандарта может выступать ситуация по стране в целом или по той области, в которую территория входит, в сравнении ее с соседними регионами или с теми, которые характеризуются близостью демографических параметров. Такой подход позволяет выявить общие и специфические черты демографических процессов, оценить уникальность их на конкретной территории, определить те болевые точки, преодоление которых может стать предметом совместных усилий с другими территориями.

Собственно качественная оценка демографической ситуации и ее отдельных элементов в решающей мере определяется целями демографического развития конкретной территории. Например, целью является стабилизация численности населения. Она может быть обеспечена при достижении нулевого естественного и миграционного прироста населения; при естественном приросте, компенсирующем миграционную убыль; при естественной убыли, компенсированной миграционным приростом. В свою очередь, нулевой естественный прирост населения может формироваться при разных сочетаниях процессов рождаемости и смертности с учетом особенностей возрастной структуры населения. Таким образом, если цель демографического развития не конкретизирует, за счет каких источников должна быть обеспечена стабилизация населения, то все варианты достижения этой цели могут быть оценены позитивно. Если же цель формулируется как – обеспечение стабилизации населения путем перехода на максимально экономичный режим его воспроизводства, то рост рождаемости до соответствующих уровней при одновременном снижении смертности (издержек воспроизводства) и минимизации миграционного сальдо является единственным путем достижения поставленной цели. Все остальные варианты развития демографических процессов должны быть оценены негативно.

Мировую демографическую науку семья интересует как предусловие воспроизводства населения, как уникальный социальный институт, специфической функцией которого является рождение детей, воспроизводство поколений, населения в целом.

С целью стабилизации демографической ситуации в Республике Беларусь правительством страны были разработаны Национальные программы демографической безопасности государства (всего 3: 2007-2010 гг., 2011-2015 гг., 2016-2020 гг.). Цель Национальной программы демографической безопасности заключается в создании условий для улучшения демовоспроизводственных процессов. Демографическая политика государства направлена не только на увеличение численности населения, повышение качества жизни людей, но и на рост человеческого капитала нации.

Планомерная качественная и эффективная реализация мероприятий государственной демографической политики позволяет кардинально изменить демографическую ситуацию, даже в районах, с преобладанием негативных социально-экономических и экологических факторов и угроз.

ПОДВИЖНЫЙ ДИАГНОСТИЧЕСКИЙ ТЕЛЕМЕДИЦИНСКИЙ КОМПЛЕКС: МЕДИКО-СОЦИАЛЬНАЯ ЗНАЧИМОСТЬ И ЭКОНОМИЧЕСКАЯ РЕНТАБЕЛЬНОСТЬ

Дрейчук А.А.[1], Филиппов В.Г.[1], Терехович Т.И.[2], к.м.н., доцент, Потейкович С.В.[1]

[1]Учреждение здравоохранения «Узденская центральная районная больница», Узда, Беларусь

[2]Республиканский научно-практический центр медицинских технологий, информатизации, управления и экономики здравоохранения, Минск, Беларусь

Введение: Целью реформирования системы организации медицинской помощи населению Республики Беларусь является сохранение и развитие государственной системы здравоохранения, обеспечение социальной справедливости в области охраны здоровья, обеспечение доступной и качественной медицинской помощи, а также повышение ее эффективности. В сельской местности сегодня проживает 11,1% трудоспособного и 9,1% старше трудоспособного возраста населения республики. Оказание консультативно-диагностической медицинской помощи населению, проведение скринингов (в частности, болезни системы крови, сахарного диабета, онкологических заболеваний) посредством использования подвижных диагностических телемедицинских комплексов (далее – ПДТК) позволит приблизить медицинскую помощь жителям сельской местности. На это обратил свое внимание в начале 2016 года Президент Республики Беларусь Лукашенко А.Г. при обращении к белорусскому народу и Национальному собранию Республики Беларусь.

Материал и методы: Подвижный диагностический телемедицинский комплекс – это амбулаторно-поликлинический комплекс, укомплектованный мобильной медицинской бригадой, базирующийся на специальном автотранспорте, и предназначенный для проведения:

1) профилактических медицинских осмотров (скрининга);

2) диспансерного осмотра лиц с хроническими формами заболеваний, подлежащих диспансеризации;

3) плановой консультативно-диагностической медицинской помощи профильными специалистами;

4) лечебных манипуляций;

5) диагностических и лабораторных исследований;

6) экстренной медицинской помощи на догоспитальном этапе в случаях чрезвычайных ситуаций (катастроф природного и техногенного характера);

7) обеспечения доступности лекарственных средств жителям сельских населенных пунктов;

8) пропаганды и формирования здорового образа жизни;

9) выезда в отдаленные сельскохозяйственные организации с целью проведения профилактических осмотров и диспансеризации.

В состав ПДТК входит: кабинет врача, с возможностью телекоммуникационной передачи данных, кабинет лабораторной диагностики, кабинет фельдшера-акушера (процедурная). Возможно включение в состав ПДТК врачей других специальностей (офтальмолог, хирург, оториноларинголог и др.) с

соответствующей комплектацией кабинетов. Базироваться комплекс будет на автомобиле повышенной проходимости.

Заключение: ПДТК даст возможность проведения диагностических и консультативных осмотров населения, имеющего трудности по посещению организаций здравоохранения, связанные, как с физиологическими (возраст, хронические заболевания, физические возможности и т.д.), так и с социальными (транспорт, наличие денежных средств и др.) ограничениями.

Использование ПДТК обеспечит доступность, качество и своевременность оказания медицинской помощи и проведения скринингов населения, в том числе на ранних стадиях заболеваний. Это позволит повысить среднюю продолжительность жизни населения, уменьшит расходы государства на выполнение высокотехнологических манипуляций в запущенных стадиях болезни, выплату денежного пособия гражданам, находящимся на листе временной нетрудоспособности, снизить инвалидизацию населения.

CHANGE IN SERUM TNF-α CONCENTRATION IN FEMALE AND MALE RATS SUBJECTED TO COMBINED HIGH-FAT-HIGH-CARBOHYDRATE DIET

P. Hrischev[1] MD, Asst. Prof., K. Georgieva[1] MD, Assoc. Prof., D. Terzieva[2] MD, Assoc. Prof., Z. Iliev[1]MD, Asst. Prof., N. Boyadjiev[1], MD, Professor, D. Popov[1],MD, Asst. Prof.

1. Department of Physiology, Faculty of Medicine, Medical University – Plovdiv, Bulgaria
2. Department of Clinical Laboratory, Faculty of Pharmacy, Medical University - Plovdiv, Bulgaria

Background: Combined high-fat-carbohydrate (HFC) diet and reduced physical activity are key factors in the development of obesity and metabolic syndrome (MetS). It has been shown that fatty tissue (FT) is not only an energy organ, but also an active endocrine organ,that secretes multiple substances with various functions. Tumor necrosis factor alpha (TNF-α) is secreted primarily by the cells of inflammation, but also by adipocytes.It is considered to be an adipokine involved in low-grade chronic inflammation, which is one of the elements of the obesity/MetS. This cytokine has a determining role in regulating the amount of adipose tissue because it suppresses the transformation of young immature fat cells into mature. It is not known whether there are gender differences in the TNF-α serum concentrations in rats with dietary-induced metabolic syndrome.

Aim: The aim of the study was to assess the effect of the combined high-fat-carbohydrate dieton serum TNF-αlevels in female and male rats.

Material and methods: Same number of female and male Wistar rats with an initial body weight of 160-180 g, were used in the experiment. Experimental animals were divided into four groups (n=8):control - female (FC) and male (MC) and dietary-manipulated - female (FD) and male (MD).The control groups were fed with standard rat chew, and the dietary-manipulated rats were subjected to a combined HFC diet for

16 weeks. At the end of the experiment, animals were decapitated and the serum concentration ofTNF-α was determined.

Results: At the end of the experiment, the administered diet had a significant main effect, as dietary-manipulated animals were with a higher weight (P<0.05) and BMI (P<0.01) compared to the controls. The gender also had a significant main effect as male rats had a higher body weight (P <0.001) and BMI (P<0.01) than females.The statistical analysis of the obtained results showed that diet and sex had a significant effect on TNF-α concentration. Higher TNF-α values were found in male and female test animals exposed to the combined HFC diet compared to those receiving standard rat chew(P<0.05), and male rats had higher concentrations than females (P<0.05).

Conclusion: It is known that MetS is characterized by low-grade chronic inflammation, which makes the role of adipokines in the pathogenesis of the syndrome extremely important. In our knowledge this data for the first time shows that the combined HFC diet leads to higher serum concentration of TNF-α in male compared to female rats. The observed gender dimorphism compliments the known evidence about the markers of low grade inflammation.

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БИОЛОГИЧЕСКИЕ ИМПЛАНТАТЫ ПЕРИКАРДА, ФИКСИРОВАННЫЕ ЭПОКСИДАМИ, В КЛИНИЧЕСКОЙ ПРАКТИКЕ

Чеснов Ю.[1], д.м.н., Тимошок В.[1], Швед М.[1], Юдо Н.[1], Москаленко А.[2]
Республиканский научно-практический центр «Кардиология», Минск,Беларусь
ОАО «ЗАВОД «ЭЛЕКТРОНМАШ», Минск, Беларусь

Количество и разнообразие искусственных материалов, используемых в сердечно-сосудистой хирургии постоянно растет. Синтетические материалы и биопротезы, обработанные глютаровым альдегидом имеют серьезные недостатки. На основе экспериментальных исследований, проведенных in vitro и in vivo в РНПЦ "Кардиология", была разработана схема обработки биологических тканей на основе использования полиэпоксидных соединений для изготовления биопротезов для сердечно-сосудистой хирургии. По данным санитарно-гигиенических испытаний биопротезы апирогенны, стерильны, не вызывают токсических изменений в органах экспериментальных животных, не обладают иммунотоксичностью, не оказывают мутагенного, гемолитического, генотоксического, цитотоксического и аллергического действия. По данным технических испытаний биопротезы обладают оптимальными прочностно-эластическими характеристиками.

Биопротезы перикарда используются в клинике с 2006 для пластики магистральных сосудов, камер, перегородок и клапанов сердца в виде заплат и клапан-содержащих кондуитов. За 10 лет имплантировано более 3000 протезов. Протезы перикарда были использованы при коррекции врожденных пороков сердца (n=1846) у новорожденных (n=270) и у детей 1 года жизни (n=308). У взрослых ксеноперикард был использован для пластики клапанов, аорты,

легочной артерии, предсердий, аневризм желудочков сердца. По результатам клинического использования ксеноперикарда, фиксированного эпоксидами, были выявлены отличные пластические свойства имплантатов, абсолютная герметичность, отсутствие спаечного процесса и гиперплазии неоинтимы. Анализ результатов клинического применения биопротезов в отдаленном периоде подтвердил их высокие биосовместимые качества, атромбогенность, прочность. Не было зарегистрировано случаев патологических реакций, кальцификации протезов, их деструкции, инфекции и осложнений, связанных с протезами. Благодаря внедрению в клинику имплантатов на основе эпоксидных соединений был разработан целый ряд новых видов хирургических вмешательств.

Выводы. Ксеноперикард, фиксированный эпоксидными соединениями, по параметрам биосовместимости, атромбогенности, прочности, эластичности, устойчивости к кальцификации превышает имплантаты, обработанные традиционным глютаровым альдегидом.

ДИНАМИКА СМЕРТНОСТИ МУЖСКОГО НАСЕЛЕНИЯ РЕСПУБЛИКИ БЕЛАРУСЬ В 1959 -2015 ГОДАХ

Романова А.П.[1], кандидат медицинских наук, доцент
Терехович Т.И.[2] кандидат медицинских наук, доцент
Марченкова И.Б.[2]
[1]Белорусская медицинская академия последипломного образования, Минск, Беларусь, [2]Республиканский научно-практический центр медицинских технологий, информатизации, управления и экономики здравоохранения, Минск, Беларусь

Сверхсмертность (ССМ) мужчин в возрасте 20-50 лет по сравнению со смертностью женщин – одна их особенностей смертности населения Республики Беларусь во второй половине XX - начале XXI века. В отдельные годы, в отдельных возрастных группах смертность мужчин превышала смертность женщин в 3-5 раз, что повлекло за собой значительную разницу в продолжительности жизни на протяжении последних десятилетий. В конце 90-х годов коэффициент смертности мужчин превышал таковой у женщин в 1.2 раза, различия ожидаемой продолжительности жизни при рождении мужчин и женщин также возрастали. Разница в ожидаемой продолжительности жизни с 4-х лет в 20-х годах прошлого столетия к 2005 году достигла 12 лет. В связи с тем, что снижение смертности, увеличение продолжительности жизни находятся в сфере демографических интересов государства и общества, исследование смертности является актуальным направлением медико - демографических исследований. Результаты изучения смертности, ее динамики и временных трендов за продолжительный период времени, могут быть использованы для оценки эффективности программ по обеспечению демографической безопасности страны и разработки комплекса мероприятий по охране здоровья населения.

Цель исследования: провести анализ и оценить динамику смертности мужчин и Республики Беларусь за 1959 – 2015 гг.

Результаты и обсуждение. В 1964 году, специфический показатель 6.99 ‰ и стандартизованный показатель смертности мужчин 8.36‰ за период исследования были наиболее низкими. Крайние максимальные значения специфического 16.70‰ и стандартизованного 14.68‰ показателей наблюдались в 2002 году. Размах крайних значений стандартизованных показателей смертности 6.32‰ был ниже размаха специфических показателей 9.71‰ смертности. Индекс ССМ 2.4 как отношение крайних максимального 16.70‰ и минимального 6.99‰ специфических показателей смертности мужчин превысил отношение 1.8 максимального 14.68‰ и минимального 8.36‰ стандартизованных показателей смертности мужчин в 1.4 раза. Специфический (грубый) показатель смертности мужчин 13.48‰ в 2015 году соответствует показателю смертности периода 1993 – 1994 годов. Стандартизованный показатель смертности мужчин 10.82‰ 2015 года соответствует показателю 1976 – 1978 годов.

Изменение структуры мужского населения, происходившее с 60-х годов прошлого столетия, оказывало влияние на формирование специфических (грубых) показателей смертности. Корректирование влияния фактора возрастной структуры населения при оценке показателей смертности, достигнутое методом прямой стандартизации, позволило выявить, что размах крайних максимальных и стандартизованных показателей и их отношения были ниже размаха и отношения специфических (грубых) показателей смертности мужчин. Временной период достижения крайних значений как интенсивных, так и стандартизованных показателей смертности мужчин совпал и составил 38 лет (1964 – 2002).

Отношение стандартизованных показателей были выше на протяжении всего периода исследования, свидетельствовали о различной интенсивности прироста смертности мужчин. Временной период достижения максимального в 2011 году и минимального в 1962 году отношения стандартизованных показателей смертности мужчин составил 49 лет, в то время как аналогичный размах для максимального и минимального индекса ССМ был меньше в 2.5 раза и составил 20 лет (1985 – 2005) (таблица).

Таблица – Тренды смертности мужского населения Республики Беларусь за 1959 – 2015 годы (%)

Год начала тренда смертности	Год завершения тренда смертности	Темп прироста/ убыли (%)	95%ДИ	Статистическая значимость (P)
1959	1961	-8.3	-22.2;8.1	≥0,05
1961	2003	1.3	1.2;1.5	≤0,05
2003	2015	-2.2	-2.8;-1.6	≤0,05

Использование кусочно-линейных регрессионных моделей позволило оценить темпы ежегодного прироста/ убыли показателей смертности

субпопуляции мужчин в разные временные периоды. С 1959 по 1961 год снижения уровня смертности мужчин при ежегодном темпе убыли 8,3(95%ДИ -22.2;8.1)%. не наблюдалось (P>0,05). С 1961 по 2003 год происходил рост смертности мужского населения (P≤0,05) с темпом прироста 1.3(95%ДИ 1.3;1.2)% ежегодно. 2003 год стал годом перелома линии тренда смертности мужчин с изменением направления на снижение с темпом убыли -2.2(95%ДИ -2.2;-1.6)% ежегодно (P≤0,05), которое продолжалось вплоть до 2015 года. Темп ежегодной убыли смертности мужчин в 2003 – 2015 годах в 1.7 раза превысил темп ежегодного прироста смертности, наблюдавшегося в 1961 – 2003 годах.

Несмотря на поступательное социально – экономическое развитие, улучшение качества жизни, в начале 60-х годов прошлого столетия в обществе начинают нарастать неблагоприятные демографические тенденции. В последующем эти тенденции приобретают устойчивый характер и изменяют вектор демографического развития республики. Влияние факторов среды обитания с учетом социального статуса и ожиданий от мужчин в обществе, в большей степени отразилось на этой субпопуляции населения. Превышение темпа убыли смертности мужчин связано с более значимым влиянием на эту категорию населения комплекса программных мероприятий по сохранению и укреплению здоровья населения.

Выводы:

1. Специфические показатели смертности мужского населения на протяжении 1959 – 2015 годов в значительной степени определялись фактором изменения возрастной структуры населения. За 1959 – 2015 годы смертность мужчин, исчисленная на основе стандартизованных показателей, увеличилась в 1.8 раза, а на основе специфических (грубых) показателей - в 2.2 раза.
2. Наиболее благоприятное влияние факторов среды обитания на мужское население БССР, характеризовавшееся наиболее низким, за период исследования уровнем смертности наблюдалось в конце 50-х – начале 60-х годов XX столетия.
3. Увеличение смертности мужчин с начала 60-х годов XX столетия до начала XXI столетия обусловлено ростом неблагоприятного влияния совокупности факторов окружающей среды, а также менее выраженными адаптационно – приспособительными способностями мужчин к изменению факторов среды обитания, что проявлялось более поздним вступлением в период роста смертности и более низким темпом ее ежегодного прироста. На улучшение условий окружающей среды мужчины также реагировали позднее.
4. Темпы ежегодной убыли смертности в период снижения смертности превышали темп ежегодного прироста смертности в период роста смертности мужчин, что обусловлено разработкой и масштабной реализацией комплекса мероприятий, направленных на сохранение и улучшение здоровья населения.

WORKING TIME IN HEALTH INDUSTRY AND HIS IMPACT ON HEALTH SAFETY OF WORKERS

Assoc. Prof. Dr. Jeni Staykova, MD[1]/Maria Titopulu, MD[2]
[1]Faculty of Public Health, MedicalUniversity - Sofia, [2]*LOT-CONSULT LTD, 16*
Dr. Galinka Pavlova MD, PhD, Vice President of Bulgarian Medical Assocciation

Introduction:According to the World Health Organization (WHO) definition - workersmustbein a state of completephysical, mentalandsocialwellbeing, andfeelcapable of using their own health potential and successfully meeting the high demands of their work places.However,the organization of work, including workingtime and working and rest arrangements ensure this "socialwell-being"?The duration of working hours in the Republic of Bulgaria inhoursisupto 40 hours a week, upto 5 days a week. Bulgarian legislation regulates the right of employees to work on more than one paid job, inwhichcase the totalworking time for all paid work is limited to 48 hours a week, with the written consent of the rented person being more than 48 hours . Variousschemes of organization of working time are also possible and employers can define them through the company's internal rules or through the collective agreement.The weekly working hours of the employees of the "Humanhealthcare" are varied. Only 45% of the employees are the same as the 40-hour working week se tby the Labor Code. Thes hare of employees, whose working week is under 40 hoursis 35%, for 11.7% of them It is 50 hours and for 8.3% - more than 50 hours a week.(5)Thework flow in the Healthcare industry is characterized by continuity, continuity and a variety of forms - on-duty, placement, triple and double-shift work, nightwork, homevisits, call-to-call, and more. In order to ensure a continuous and constant treatment healing process. Excessive working hours, shiftwork, work-related stress and unfavorable lifestyle shave an important impact on the impact of the load factors faced by workers in the course of their work.(1)

The main purpose of this study is to determine the impact of shifting work on the health and safety of workers in the“Healthcare sector”, which makes it possible to make effective proposals to improve practices and to take concrete actions in the long run.

Methods: During the implementation of the current researc, the methodology for collecting primary and secondary information was applied. It is used a combination of quantitativeandqualitativemethods of gathering information is used:

- the cabinet survey method;
- method of content analysis;
- expert assessment method.

Results and Discussion: The overall assessment of "working time" for the Healthcare sector in the National Survey of Working Conditions in Bulgaria is that the employees in this sector are most exposed to risks associated with longer workinghours.(3)A surveyconducted at the National Level of the OSH ProfileinHuman Health showsthatabout 40% of the employees up to 5 times a month work at least 2 hours at night, and 19.7% of them are between 6 and 15 times. Also 46.7% is normal to 5 times a month to work in the evening, and for about 20% it happens between 6 and 15 times a month. Up to 5 times a month, morethan 10 hours work per day, 34.5% of employees work, 22.4% more often - between 6 and 15 times a month, and 5.2% more

than 10 hours Day is almos tevery day.The industry has a predominant approach to determining the working time of employees by the organization - 79.3%. 13.8% - can choose from different schedules, 3.4% - whether to work on floating time and just as if to work on alternate shifts.There is often an unexpected change in the working times cheme, which is a risk to the employees, puts the min a stressful situation and deprives them of the possibility to freely plan their free time. Only 3.4% said they received information on a change in working time on the same day, 1.7% a day earlier, 15.3% a few days earlier, and 11.9% a few weeks on -arranged. As a cause of unforeseen changes in working time, managers mainly point to the emergence of emergencies, which is fully understandable about the nature of work in the industry.The industry has the highest relative share of employees who say their work leads to heal the problems: backpain, stomachache, headaches, stress, general fatigue, worry, allergies, sleep problems.[3]Some studies have found a link between shift work and the increased risk of developing cancer.[4]

Conclusions and Recommendations: The working process in the Healthcare sector requires establishing such a work and rest regime in which periods of work and rest are so designed as to ensure a continuous and permanent healing process while preserving the working and health of workers.Replacement workis a prerequisite for a number of conflicts:

- isolation from family life;
- insufficient contact time with the partner;
-limiting the parental role and fulfillment of the parental responsibilities of the shift worker;
- increasing or decreasing households' work by the worker;
- increased divorce rate and more.

As a result of the shift work, it is possible for a worker to develop a sense of alienation from society and family isolation.[2]For this, it is particularly important for employees to be involved in the distribution of shifts. As far as possible, individual preferences and personal interests should be respected. When drawing up the schedules, it is necessary to observe alternating shifts: first - second - night. Ifpossible, plan less night shifts and provide two consecutive week end breaks. The first shift does not start too early and the night shift does not end too late.To reduce the adverse effects of shift work, controlled forms of behavior can be employed - sports, healthy eating and sleep improvement.

Conclusion: Shift work is absolutely necessary and is an essential precondition for the functioning of the Healthcare industry. However, shift work has seriou simplications for social life, especially on the family and on the health of workers in the industry. A large number of measures must be taken to avoid or at least mitigate the adverse impact of shiftwork. Negative results can be avoided if shift schedule is take into account, on the one hand, the available technical and organizational measures and, on the other hand, medical measures, accelerated adaptation treatment and personal behavior

СМЕРТНОСТЬ ЖЕНЩИН БЕЛАРУСИ ВО 2-Й ПОЛОВИНЕ XX - НАЧАЛЕ XXI СТОЛЕТИЯ

Романова А.П.[1], кандидат медицинских наук, доцент
Гвоздь Н.Г.[1], кандидат медицинских наук
Терехович Т.И.[2], кандидат медицинских наук, доцент
[1]Белорусская медицинская академия последипломного образования, Минск, Беларусь, [2]Республиканский научно-практический центр медицинских технологий, информатизации, управления и экономики здравоохранения, Минск, Беларусь

В конце 30-х – 40х годах XX столетия в СССР возникло новое демографическое явление – рост различий продолжительности мужчин и женщин. С 4-х лет в 1927 году различия продолжительности мужчин и женщин к 50-м – 60-м годам достигли 8-9 лет. В конце 90-х годов XX столетия коэффициент смертности мужчин превышал таковой у женщин в 1,2 раза, различия ожидаемой продолжительности жизни при рождении мужчин и женщин также возрастали. Разница в ожидаемой продолжительности жизни с 4-х лет в 20-х годах прошлого столетия к 2005 году достигла 12 лет. В связи с наблюдающимся со второй половины XX столетия превышением показателей смертности мужчин над смертностью женщин, сверхсмертность (ССМ) мужчин значительно чаще является предметом научных исследований. Основная часть работ по изучению гендерной смертности населения Республики Беларусь проводилось на основании сравнения специфических, значительно реже стандартизованных, показателей смертности за отдельные более или менее продолжительные периоды времени.

В связи с тем, что снижение смертности, увеличение продолжительности жизни находятся в сфере демографических интересов государства и общества, исследование смертности женского населения, является не менее актуальным направлением медико - демографических исследований. Результаты изучения смертности женщин, ее динамики и временных трендов за продолжительный период времени, могут быть использованы для оценки эффективности программ по обеспечению демографической безопасности страны и разработки комплекса мероприятий по охране здоровья населения.

Цель исследования: провести анализ и оценить динамику смертности женщин Республики Беларусь за 1959 – 2015 гг.

Результаты и обсуждение. В 1964 году отмечены наиболее низкие значения специфического 5.84‰ и стандартизованного 5.14‰ показателей смертности женского населения. Наиболее высокий специфический показатель смертности женщин 13.1‰ наблюдался в 2002 году, стандартизованный 7.31‰ в 1995 году. Размах крайних значений стандартизованных показателей смертности 2.17‰ за период исследования был ниже размаха специфических показателей смертности 7.26‰. Индекс ССМ, как отношение максимального 13.10‰ и минимального 5.84‰ специфических показателей смертности, составил 2.2. Отношение максимального 7.31‰ и минимального 5.14‰ стандартизованных показателей за период исследования составило 1.4 и превысило индекс ССМ в 1.6 раза.

Изменение структуры женского населения, происходившее со второй половины прошлого столетия, оказывало влияние на показатели смертности. Корректирование методом прямой стандартизации влияния фактора возрастной структуры населения при оценке показателей смертности, позволило установить, что размах крайних максимальных и стандартизованных показателей и их отношения были ниже размаха и отношения показателей смертности женщин. Установлено, что период времени между крайними максимальными и минимальными значениями стандартизованных показателей смертности женского населения составил 31 год (1964 – 1995) и был на 7 лет короче периода, исчисленного для интенсивных показателей (1964 – 2002).

В связи с выявленными различиями временных размахов и значений минимальных и максимальных показателей смертности женщин, проведено исследование временных трендов стандартизованных показателей смертности. Использование кусочно-линейных регрессионных моделей позволило оценить темпы ежегодного прироста/ убыли смертности женского населения в разные временные периоды (таблица).

Таблица – Тренды смертности женского населения Республики Беларусь за 1959 – 2015 годы (%)

Год начала тренда смертности	Год завершения тренда смертности	Темп прироста/ убыли (%)	95%ДИ	Статистическая значимость (P)
1959	1964	-3.6	-6.3;-0.8	≤0,05
1964	1999	0.9	0.6;1.1	≤0,05
1999	2015	-1.7	-2.0;-1.3	≤0,05

С 1959 по 1964 год смертность женского населения с темпом убыли ежегодно -3.6 (95%ДИ -6.3;-0.8)% снижалась (P≤0,05). В 1964 году отмечено минимальное значение уровня смертности женского населения 5.14‰, после чего произошел перелом тренда с изменением его направления на противоположное. В период с 1964 по 1999 годы с темпом ежегодного прироста 0,9 (95%ДИ 0.9;0.6)% смертность женского населения увеличивалась (P≤0,05). Пик возрастающего тренда смертности женщин приходится на 1999 год, после чего наблюдается снижение смертности (P≤0,05) с темпом убыли ежегодно -1.7 (95%ДИ -1.7;-1.3)%. которое продолжалось вплоть до 2015 года. Временной размах тренда роста смертности женщин составил 35 лет (1964 – 1999), снижения - 16 лет (1999 – 2015). Темп ежегодной убыли смертности женщин в период снижения смертности (1999 – 2015) в 1.9. раза превысил темп ежегодного прироста смертности в период ее роста (1964 – 1999) и был в 2.2 раза ниже темпа ежегодной убыли смертности в период ее снижения с 1959 по 1964 год.

С 60-х годов XX столетия несмотря на поступательное социально – экономическое развитие страны, улучшение качества жизни населения, начинают нарастать неблагоприятные демографические тенденции. Фактор изменения возрастной структуры населения оказал влияние на формирование показателей смертности женщин. Стандартизованные показатели смертности

женщин начали снижаться в 1999 году, а специфические (грубые) показатели смертности с 2002 года.

Выводы. Специфические (грубые) показатели смертности женского населения на протяжении 1959 – 2015 годов в значительной степени определялись фактором изменения структуры населения. За 1959 – 2015 годы смертность женщин, исчисленная на основе стандартизованных показателей, увеличилась в 1.4 раза, а на основе специфических (грубых) показателей в 2.2 раза. Стандартизованный показатель смертности женщин 5.51‰ 2015 года соответствует показателям смертности 1967 – 1968 годов, а специфический 11.85‰ 2015 года - показателю смертности 1996 года.

Наиболее благоприятное влияние факторов среды обитания на население Белорусской Советской Социалистической Республики, характеризовавшееся снижением смертности женщин, наблюдалось в конце 50-х – начале 60-х годов XX столетия. Рост смертности женщин с начала 60-х годов XX столетия до начала XXI столетия обусловлен ростом неблагоприятного влияния совокупности факторов окружающей среды

Женщины обладают высокими по сравнению с мужчинами адаптационными способностями к изменению факторов среды обитания, что проявлялось более поздним вступлением в период роста смертности и более низким темпом ее прироста. Реализация системы мер государственного характера, направленных на охрану материнства и детства, оказывала благоприятный эффект на смертность женского населения, способствуя более низкой интенсивности роста смертности.

ОПЫТ МАЛОТРАВМАТИЧНОЙ ТРАНСПЕДИКУЛЯРНОЙ ФИКСАЦИИ ПОЗВОНОЧНИКА.

Юрченко С.М.
РНПЦ травматологии и ортопедии, Республика Беларусь, г.Минск

Целью проведенного исследования являлось изучение возможности выполнения транспедикулярной фиксации позвоночника из малотравматичных доступов с использованием имеющегося в наличии инструментария, оценка удобства в работе, оценка результатов хирургического лечения, определение недостатков и сложностей в работе и путей их устранения. За период порядка 2-х лет выполнено 11 хирургических вмешательств из малотравматичных доступов, 8 операций выполнены с использованием компьютерной хирургической навигации. Операции выполнены при следующих патологиях: спондилолистезы – 1, переломы грудных и поясничных позвонков – 10. В послеоперационном периоде всем пациентам выполнено компьютерно-томографическое (КТ) обследование. Стояние металлоконструкции у всех пациентов корректное. У троих пациентов в течение месяца выявлен размонтаж металлоконструкции с одной стороны, по поводу чего выполнялось повторное хирургическое вмешательство..

Использование малотравматичной методики имеет свои преимущества и недостатки. К преимуществам можно отнести снижение кровопотери во время

операции, отсутствие необходимости выполнения широкого хирургического доступа исключает денервацию и деваскуляризацию паравертебральной мускулатуры, что в свою очередь в небольшой степени сказывается на функциональном состоянии мышц в послеоперационном периоде, уменьшая болевой синдром и давая возможность начать реабилитацию в максимально ранние сроки. К недостаткам же стоит отнести сложности при установке винтов и монтаже металлоконструкции, что объясняется ограниченностью обзора и отсутствием необходимого монтажного инструментария и вынудило нас к некоторому расширению доступа, чем и объясняется название методики как «малотравматичная», а не «малоинвазивная», это же влечет за собой и удлинение времени операции. Использование навигации в значительной степени позволило повысить точность установки винтов. Исходя из всего этого, можно сделать вывод о том, что предложенная методика имеет право на жизнь и есть пути ее совершенствования, в основном за счет разработки специального монтажного инструментария.

GP'S PARTICIPATION IN VOLUNTARY COLORECTAL CANCER SCREENING CAMPAIGN: MIXED METHODS STUDY

Assoc. Prof. R. Dimova, MD, PhD *, Chief Assistant R. Stoyanova, PhD*, Assoc. Prof. I. Doykov, MD, PhD**, Assoc. Prof. J. Chakarov, MD, PhD***, Chief Assistant M. Tarnovska, MD, PhD****

*Medical University Plovdiv, Bulgaria, Faculty of Public Health, Dept. of Health Management and Healthcare Economics

** Medical University Plovdiv, Bulgaria, Faculty of Medicine, Dept. of Otorhinolaryngology

*** Medical University Plovdiv, Bulgaria, Faculty of Medicine, Dept. of Propaedeutics of Surgical Diseases

**** Medical University Plovdiv, Bulgaria, Faculty of Public Health, Dept. of Healthcare Management

Introduction Colorectal cancer (CRC) is a widespread malignant neoplasm and the third most common cause of cancer-related death worldwide. In Bulgaria, CRC is the third most frequent cancer in both sexes. International studies have found out that General Practitioners (GPs) could play an important role in the prevention and early detection of CRC, however in Bulgaria this is yet to be optimized. In 2009, the population based FOBT screening program was discontinued due to poor compliance of both, the GPs and the health insured persons. This study sought to understand the GPs' attitudes and their willingness to perform CRC screening using iFOBT, as well as their actual participation in the voluntary CRC screening campaign without financial incentives.

Methods Based on mixed methods approaches, a multi-site, practice-based study was carried out, using triangulation techniques and a sequential explanatory design strategy. The study was conducted in primary care in Asenovgrad Municipality (with 30557 inhabitants aged 45 years or over), located in the South Central Bulgaria in 2015 and its duration was one year. We conducted: a questionnaire survey of all GPs

from the Municipality, followed by face-to-face semi-structured open ended interview, non-participant direct observations and document reviews of 32 GPs. The interviews focused on the following topics: 1) Difficulties and barriers encountered by GPs in the screening campaign 2) GPs' attitude to participate in future screening programs. The recording sheets were used to record observations as in YES-NO option (present-not present) of what has to observe. The developed monitoring cards were analyzed based on whether a "marker" was present to indicate if the target patients had received the test from their GP or not. The case analysis used thematic analysis with inductive approach.

Results The question survey revealed that GPs' information and knowledge of the usefulness of CRC screening is insufficient and they are not well aware of its importance. It was also found the lack of GP's confidence in iFOBT and its sensitivity and specificity. A statistically significant difference was established between the age of the participants and their refusal to participate in the study (P=0.045, U=141.00). Older doctors (U=135.00, P=0.015) and those of them, working with a nurse (U=73.50, P=0.000), were more willing to participate in the screening campaign. The qualitative methods, used further confirmed the GP's concerns about iFOBT reliability and their insufficient confidence to engage in CRC screening. Accumulated interviews data revealed that among the main reasons GPs not to participate in the screening campaign were: lack of time, no financial benefit and insufficient trust in the significance and the efficacy of iFOBT.

Conclusion This study attempted to outline the factors influencing the behaviour of GPs in terms of their voluntary participation in CRC screening campaign. Furthermore, their understanding of the screening process also impacted their actual participation in the programme. A number of legal, medical, organizational and economic issues have to be considered before decisions can be made on the implementation of population based CRC screening programme in Bulgaria.

Key word: GP; Colorectal Cancer; Screening; iFOBT; Quantitative and Qualitative **study**

FORENSIC DNA ANALYSES POWERFUL TOOL IN SOLVING CRIME CASES AND IDENTIFICATION OF MISSING PERSONS

Prof. Dr Zlatko Jakjovski

Affiliation: Institute of Forensic Medicine and Criminology, School of Medicine , University ''Ss. Cyril and Methodious'', Skopje , Macedonia

Introduction: The advent of DNA fingerprinting identification has revolutionized the science of crime detection. Using DNA to trace people who are suspected of committing a crime has been a major advance in policing. This technique when performed according to strict guidelines is highly reliable in convicting criminals and, equally importantly, helps in exonerating innocent individuals. The human genome which consists of about 3 billion base pairs harbours genetically relevant information which is essential for the characterization of each individual. It is believed that genetically relevant information represents less than 10 % of the human genome. The other 90% of the genome is junk DNA, a term which is more of a misnomer since their functions are still unknown rather than useless. A part of this non-coding DNA is

comprised of repetitive sequences. Highly polymorphic spots in these non-coding regions are referred to as mini- or micro-satellites characterized by repeated blocks of DNA. The single-locus satellites are localized at a specific site of a given human chromosome, while multi-locus satellite elements or short tandem repeats (STRs) are spread throughout the entire genome.

STRs are highly polymorphic, and alleles of the STR loci are differentiated by the number of copies of the repeat sequence within each of the STR locus. The more STR loci being used for typing, the greater the discrimination value since the likelihood that a single individual has an identical STR profile, that possesses the exact same number of repeat units for all the STR being analyzed, with another individual taken at random in the population becomes extremely rare. In forensic practice autosomal STRs, Y-chromosomal STRs, X-chromosomal STRs and mtDNA analyses are using.

In this article we are presenting an high profile cases in Macedonia which are solved by forensic DNA analysies like mass grave cases, serial killers, rapes and incests and murder cases proved by using of national forensic DNA data base.

Mass graves: Two mass graves were excavated that contained commingled complete and partial remains. These were suspected to be the result of atrocities stemming from the ethnic conflict in the Republic of Macedonia in 2001. We performed autopsies on the exhumed victims and forensic DNA analyses using autosomal and Y – chromosome STR haplotyping of the samples, obtained from the victims' remains and from potential surviving relatives. The evidentiary materials were collected following the INTERPOL recommendations for identification procedures, to guarantee sample preservation for DNA analyses and to document the chain of custody of the DNA samples Interpol (1998). The professional multidisciplinary team included an investigative judge, a prosecutor, forensic pathologists, a forensic anthropologist, a biologist, a team of crime laboratory technicians from the Ministry of Interior (MI) and observers from the International Criminal Tribunal for the former Yugoslavia (ICTY), Organization for Security and Co-operation in Europe (OSCE), EU monitoring missions and PROXIMA (EU Police Mission).

Serial killers: Serial murders occurred in the last 9 years in two different cities in the Republic of Macedonia. Four males were killed on a similar way in the city of Ohrid and tree females, same age, in the city of Kicevo. All of the bodies were in a process of decomposition or were skeletonized.

Rape cases: In the first case, there was incest between brother and sister. Labour was induced with prostaglandin during the 15th week of pregnancy. The victim, a 14-year-old girl, stated before the investigative authorities that she had been raped by a 60-year-old man. The second case was incest between uncle and niece. Vacuum abortion was performed in the seventh week of pregnancy. According to the information obtained from the investigating authorities, the 14-year-old victim had been raped by her uncle. For the purposes of forensic DNA analysis, we were provided with material from the performed abortion, blood of the victim and blood of the suspect.

DNA data base: In village Rankovce old woman was found killed in her barn, and her body was corded on the mouth, hands and legs. During the crime scene investigation cigars were found in the house of the victim who were taken for DNA analysis. During the authopsy blood from the victim, nail debris and pieces from the ropes were send for DNA analysis.

In a village near by the city of Kicevo an married couple was found killed and bodies were corded. During the authopsy blood from the two victims, nail debris and pieces from the ropes were send for DNA analysis. During the authopsy blood from the victim, nail debris and pieces from the ropes were send for DNA analysis. After several years in church bugrlary hapend. During crime scene investigation on the broken window blood was found.

Conclusion: There are number of procedures to be taken in order to prove rape case, murder, identification of the missing persons which include examination of the victim, the crime scene investigation and examination of the suspect. Each investigation procedure should be conducted under strictly defined protocol, with compulsory identification of the victim. In providing the material evidence the custody chain should be followed. The victim examination should be performed by a doctor who is specialist for forensic medicine, who will make body examination and gynecological examination of the external genitals. Besides using autosomal STRs, we recommend Y-STRs to be used in all rape cases, too, thus separating the male from female profile, and also the male kinship relatedness in cases of incest could be followed, the rape performed by several blood-related men or similar.

A forensic DNA database may help criminal investigators to establish links between a particular suspect of a specific crime and other unsolved crimes, or can provide support to identify potential suspects while clearing other suspects in the early stages of an investigation. Our expirience through those two cases show that forensic DNA data basis was crucial killers to be identified. Larger DNA databases reduce crime rates, especially in categories where forensic evidence is likely to be collected at the scene—e.g., murder, rape, assault, and vehicle theft. The probability of arresting a suspect in new crimes falls as databases grow, likely due to selection effects. Forensic DNA databases have the potential to prevent and detect crime.

During the expertise of mass graves the professional multidisciplinary team must be formed which included a prosecutor, forensic pathologists, a forensic anthropologist, a biologist and a team of crime laboratory technicians from the Ministry of Interior (MI). The evidentiary materials must be collected following the INTERPOL recommendations for identification procedures, to guarantee sample preservation for DNA analyses and to document the chain of custody of the DNA samples Interpol (1998).

WHY DO THE MUSCLES OF THE FACE NEED TONE ?

K. Savova, S. Stoynova, B. Asanova
Medical University – Medical College – Sofia, Bulgaria
specialty “Medical Aesthetician”

Introduction: Often cosmetological face procedures include special care for the structural units of the skin and less often is accentuated the care for the facial muscles. As years go by the muscle tone gradually decreases and the entire face starts sagging. As well as losing muscle tone the constant use of facial muscles for facial expression starts to leave deeper impressions on the surface of our faces. A reduction in skeletal muscle mass and strength (sarcopenia) is part of the normal aging process.

Skeletal muscle fibers retain considerable plasticity into old age, and sarcopenia can be partly reversed with exercise.We as cosmetologists (medical aesthetician) want to look at a holistic approach in caring for beautiful and healthy face vision. Besides the mimic movements that are performed by the facial muscles there are also targeted methods for muscle tone-facial exercises, facial massage and electrical muscular stimulation (EMS). These methods improve muscle tone and volume, reduce the depth of wrinkles, for which they have a pronounced preventativeanti-aging effect.

Aims: To review the method electrical muscular stimulation (EMS) for increasing muscle tone and the results and effects on signs of facial aging.

Method: This report discusses the method of electrical muscular stimulation of facial muscles as an approach to the care of aging skins in a woman aged 59 years.They were made two courses oftreatments, each one on five consecutive days, and the break between was one week. Facial skinconditionwereassessed using a comparative analysis based onphotographic before and after thecourses of treatments.

Results: From the analysis of the results we can see that after the second course of procedures the face contour is significantly better than the one after the first course of procedures. According to the results by the classification of Hamilton, significant improvement is seen in the forehead, eyebrow and cheekbones, while in the areas of nasolabial folds and neck the depth of wrinkles is no significant difference. The client reported subjective improvements in facial attributes - firmness, tone and lift. Also, changes in turgor and elasticity of the skin of the entire face are observed.

Conclusion: The results of the study indicate that EMS therapy significantly improves the state of facial skin and contour, reduces the number and depth of wrinkles,improves its elasticity and turgor.Electrical stimulation of the muscles may help to strengthen the muscle, but facial aging is a combination of all layers of tissue including skin, fat, muscle and bone. From the results obtained, we can not make general conclusions due to the single case under consideration. We think that as a non-invasive preventative anti-aging procedure, electrical muscular stimulation (EMS) can be used intermittently and in cycles to maintain muscle tone, depending on age, skin changes and genetic features of each individual.

Key words: electrical muscular stimulation, muscle tonus, facial aging, wrinkles.

HEMORRHAGE AND ISCHEMIC STROKE RISK FACTORS DIFFERENCES

N. Dolnenec-Baneva, Prof, MD, PhD
University Clinic of Neurology, Medical Faculty, Skopje, Macedonia
D. Petrovska-Cvetkovska, Assoc. Prof, MD, PhD
University Clinic of Neurology, Medical Faculty, Skopje, Macedonia,
D. Chaparoska, Prof, MD, PhD
University Clinic of Toxicology, Medical Faculty, Skopje, Macedonia
S. Nikolovska, Prof, MD, PhD
University Clinic of Dermatology, Medical Faculty, Skopje, Macedonia
E. Baneva, MD, PhD
Skopje, Macedonia

Background: Any damage to the CNS caused by an abnormality of blood supply is stroke (ischemic/hemorrhagic). 85% of all strokes are ischemic and 10-15% are hemorrhagic. In 2010 worldwide were almost 17 million incidences of first-time stroke. Every two seconds someone in the world will have a stroke for the first time. Stroke is the second single most common cause of death in the world causing 6.7 million deaths each year. Stroke takes a life every five seconds worldwide. 1 in 4 strokes are fatal within the first year.

The aim of the study was to analyze some risk factors in stroke patients (ischemic stroke/hemorrhage) like: age, gender, artery hypertension, diabetes, hyperlipidemia, smoking, cardiovascular diseases.

Method: This is retrospective study which includes 968 (in total) computer tomography evaluated stroke patients (age 24-88; mean=65.4±12.1; men 530; women 438) and treated at Cerebrovascular Diseases Departement-University Clinic of Neurology in Skopje.

Results: Ischaemic stroke was in majority-89.5% (n=866) vs. hemorrhagic-10.5% (n=102). In ischemic stroke men/women are foud in 53.8%/46.19% vs hemorrhagic in 62.75%/37.25%. The age difference is nonsignificant ($p>0.05$) between the both stroke types (ischaemic: mean age 65.75±11.8 vs. hemorrhagic 62.3±13.6). The difference between grups with hypertension (96.08% hemorrhagic and 87.76% ischaemic patients) is nonsignificant ($p>0.05$). The diabetes appeared significantly ($p<0.05$) in 29.1% ischaemic vs. 15.69% hemorrhagic patients. There is insignificant difference ($p>0.05$) in hyperlipidemia between the both grups (9.24%-ischaemic; 9.8%-hemorrhagic). The smoking (29.56%-ischaemic; 29.14%-hemorrhagic) is found without significant difference too.

Cardiovascular diseases are significantly more frequent ($p<0.05$) in the ischaemic type-23.33% than in hemorrhagic-7.84%. Mortality is insignificantly found to be frequently present in ischaemic patients-14.78% vs. hemorrhagic-5.88% ($p>0.05$).

Conclusions: Ischaemic stroke is more frequent than hemorrhagic. The leading risk factors in hemorrhagic patients are age, hypertension and smoking. The leading risk factors in ischaemic patients are age, hypertension, diabetes, smoking and cardiovascular diseases.

CRITICAL POINTS OF HEALTHCARE SYSTEM IN BULGARIA

Assoc. Prof.Stayko Spiridonov, MD, PhD
National Association of Health Policy and Management of Bulgarian

The scourge of Bulgarian healthcare is the demagogy and the policy of "divideandrule". The author states breaking points - broken relationships "doctor - patient - society", nationalized NHIF, excessive concentration of hospital services in major cities and unequal access of insured citizens of small towns, medical "oligarchy"tendency.

The result is patientsdissatisfaction and lack of trust in the doctors. Defamationagainst the profession are spilled with impunity and the young doctors do not want to stay in Bulgaria. This is the result of inefficient levers of action,

communication and interaction in the profession; lack of real working a professional structure for self-control and self-regulation and lack of union of doctors that is respected and respectable partner.

There is a system error in the Bulgarian healthcare and it needs five radical changes. The first one is the pricing of medical services - this will provide a basis for the actual cost of the medical activity for patients diagnosis and treatmentrespectively the necessary resources for healthcare. These condis the withdrawal of the state from the National Health Insurance Fund and gradualde-monopolization -currently the Health Insurance Fund is a state-owned appendage to the Ministry of Finance with extremely unclear funding of the medical activities. It is imperative to build up with additional health insurance funds, which will lead to greater control over the spending of the funds for patients. More than necessary is the change of the Lawon Professional Organizations. The establishment of a Physician`s chamber will lead to regulation and self-regulation, high qualification of doctors, proper reallocation of financial resources, regulation of medical institutions on the territory of Bulgaria and standardization of patient care.

The next change is related to the return of national medical institutes financed by the state - / example - Institute of emergency, Institute of Oncology, etc / - Concentration of high-tech activity and therapeutic activities, including high staff training. The fifth mandatory step is liberalization in healthcare - more Statein the control and regulation and more market in services. In medicine, it means - a free market and access to medical services withstate, not administrative regulation.

SURGICAL TRAINING AT THE FIRST STAGE OF CONTINUOUS MEDICAL EDUCATION: PRECONDITION, RESULTS, PERSPECTIVE

Chkhaidze Z., MD PhD; Khodeli N. MD PhD; Partsakhashvili J. MD PhD; Pilishvili O.Iv. Javakhishvili Tbilisi State University, Tbilisi, Georgia
Israel-Georgian Medical Research Clinic "Helsicore", Tbilisi, Georgia

Background: Despite the intensive clinical application of the scientific and technological innovations, the effect of the human factor in surgical intervention remains decisive. The existing model of training highly qualified specialists in the residency program does not always render positive results. For adaptation of the educational process with modern conditions it is developed the new method and forms to stimulate the motivation of students for intensification of training and perfection of surgical habits. The method of colleagues at the department of clinical anatomy of the medical faculty of Tbilisi State University is based on the early professional orientation of the students, and their active attraction in the specialized surgery groups within the department's "Scientific-Training Center of the Experimental Surgery". The Center has united the abdominal, thoracic, microvascular surgery, plastic surgery, anesthetic groups and the group of artificial life support.

Methods: Teaching was carried out on the basic and specialized stages of preparation in the duration of 6 years in conjunction with regular classes at the faculty. 50 students (I-VI year of education) were involved in surgical trainings. The first 2-year of training was performed on dummies and biotissues. Next 2-year - training in

experimental researches on animals, with mastering the habits of restoration and preservation of the functions of vital organ. The intensive surgical training is possible only in specialized settings, such is the Scientific-Training Center of the Experimental Surgery.

Results: 1. As compared with the rest of the fellow students, significantly higher level of knowledge of theoretical foundations and practical skills in various fields of surgical specialty.

2. Positive influence on learning process in general, with improved academic performance of students in every surgical discipline.

3. Popularization and promotion of scientific work with active engagement of students in research activities of the department.

4. "Painless" adaptation of students in the clinical departments of hospitals.

Conclusion: At the end of the undergraduate study it allow to reach the high level of skills in basic surgical manipulations and practical habits.

DEVELOPMENT OF AN EXPERIMENTAL MODEL FOR MACHINE-PERFUSION ORGAN PRESERVATION "IN SITU" ON SHEEP

Khodeli N, MD, PhD; Chkhaidze Z. MD, PhD; Partsakhashvili D. MD; Pilishvili O.
Institute of Morphology, TSU. Georgia
Israel-Georgian Medical Research Clinic "Helsicore", Tbilisi, Georgia
Khodeli N

Background: Cardiac arrest affects 200 000 persons each week around the world. Extra-corporeal cardio-pulmonari resuscitation brings life back to 40 percent of such patients. The remaining 60 percent of cases can be considered as potential donors of organs with a minimal worm ischemia period. For this reason, extra-corporeal perfusion for these patients should continue until their designation as donors. The aim of the study is the prolongation of extra-corporeal "in situ" perfusion on an experimental animal with the arrested heart, with the maintenance of functional activity of organs using the natural, normothermic blood.

Methods: In six (6) experiments on sheep, after modeling cardiac arrest, we carried out poli-organic "in situ" perfusion with native, oxygenated blood. For artificial circulation we used a perfusion system of our own design. Using separate circulation schemes, three (3) experiments were conducted on the preservation of abdominal organs and another three (3) – on the thoracic organs. During the experiment, we measured the basic parameters of systemic and organic blood circulation. We also extracted bioptates from the organs for morphological study.

Results: Intheinitialstageonthestudy, during the 8 hoursofperfusion, theparametersoftissuemicro-circulationandmorphologicalstudyresultsconfirmedthefunctionalandmorphologicaladequacyofpreservedorgans.

Conclusion: In the experimental model, optimal"in situ" preservation of organs is possible for the duration of 8 hours after the cardiac arrest, using extra-corporeal perfusion with native oxygenated normothermic blood.

THYROID GLAND MICROCARCINOMAS: HISTOLOGICAL AND IMMUNOHISTOCHEMICAL SIGNIFICANCE IN GEORGIA

liana Gogiashvili, Professor, PHD, DS, Zurab Tsagareli, PHD, DS, Maguli Chkhobadze, PHD, DS, Manana Dgebuadze, MD, Tinatin Kvachadze, MS.
Department of Clinical and Experimental Pathology, A. Natishvili Institute of Morphology, Ivane Javakhishvili Tbilisi State University (TSU), Tbilisi, Georgia

Background: Papillary thyroid microcarcinoma (MPTC) is specific subgroup of thyroid microtumors (1 cm or less in diameter), dramatically increased in World including Georgia, which traditionally is target region for thyroid disfunction (hypothyroidismus). The arbitrary development of MPTC – nuclei features (diagnostic criteria) dictate to changes of the diagnostic approach especially non-neoplastic thyroid pathology – as Hashimoto´s and benign nodular processes or so-called well differentiated tumor of uncertain malignant potential" (Liu, Zhou, Nakamura et al., 2011). Therefore MPTC could be estimate as early phase of classical papillary carcinoma or precursors (precancerous, borderline or gray zone lesions). Most of MPTC are diagnosed incidentally.

Moreover, papillary thyroid carcinoma (microcarcinoma) does occur in children and increases in incidence with age (Dideban C. et al., 2016; Gogiashvili L., 2016).

Study aim is to evaluate the significance and expression of some immunohistochemical markers in diagnosis of MPTC applied in Hashimoto and multinodular goiter.

Methods and Objectives. Immunohistochemistry techniques were used for detection and accuracy malignant potentiality of transforming areas in thyroid parenchyma in 44 history of histologically diagnosed MPTC. According WHO classification, papillary thyroid carcinoma may be classified into 15 variants based on histological features, but is often difficult to bordered neoplasia from benign papillary hyperplasia. Paraffin-embedded sections were incubated with the following primary antibodies: CK-19, Galectin-3, CK34BE12, Ki-67, CD56, Cyclin D1. Hematoxylin was used for nuclei counterstaining. All slides were processed by the same pathologist.

Results: Considering the performance of diffuse immunoreactivity for Cyclin D1, CK-19 and Galectin-3 and combination of noted protein markers we found that statistically significant difference in expression of this markers (U-test, Spearman and Pearson criterion) was shown between groups Hashimoto thyroiditis affilation in contrast to these results with multinodular goiter indicating of the metastatic potential forming index cohort for this study.

Conclusion: These facts may detect positive correlation and sensitivity of combined expression of Cyclin D1 and Galectin 3 and CK19 with microcarcinomas aggressiveness to accent and predict metastatic potential of MPTC and poor prognosis.

ENDOCRINE GLANDS REACTION ON THE EFFECT OF PHENOL SUBSTANCES AND AFTER LIQUID OXYGEN CORRECTION IN EXPERIMENT (BIOCHEMICAL AND HISTOLOGICAL EVIDENCES)

Ivane Javakhishvili Tbilisi State University,(TSU), .A.Natishvili Institute of Morphology, Department of Clinical and Experimental Pathology. Tbilisi, Georgia.
Ekaterine Melikadze. MD; Elene Nikobadze MD

Background: There are discussed more toxic effects on the endocrine glands especially on the male gonads due to phenol application. Moreover, histological and biochemical manifestation of above-mentioned changes not well understood. Study aim is to evaluated blood serum concentration of LH, FSH hormones and sex steroids: estrone, testosterone and estradiol in experiment on the albino male rats and testis histology.

Methods: The experiment was carried out on the 60 adult male albino rats with body mass 200-250g. Phenol applied in a special closed cabin during 15 days. The concentration of gonadotropic hormones LH, FSH and sex steroids – testosterone, estrone, estradiol in serum were estimated on the days 16, 30, 45, 60 of experiment by the immune-enzime method. Samples of testes from the similar days of experiments were studed by Hematoxylin and eosin staining; 5 normal albino male rats (so–called "intact") were included into control group.

Results: The significant disturbances of hormones were noted at all experiences days: testosterone level decreased versus female steroids level increased markedly. In testes histology significance dystrophia and shrinking of Seminiferous tubules, testis rete and components of blood-testis barrier were detected. Sertoli cells necrosis and Sertoli to spermatogenous epithelia junctions, were disconnected. Leydig cells dystrophia and necrotic fosci into interstitial tissue also presented. Liquid Oxygen application, in contrast has a positive effect on the phenol induced injuries, correcting female gonadotropins level, but do not acts on the testis histology and testosterone production.

Conclusion: The data conclude that the phenol caused the sever disorders in male gonads, till necrosis, as well as hormone production to provoke inversion of hormonal activity.

CORPORATIVE HEALTH INSURANCE IN BULGARIA – ADVANTAGES AND PERSPECTIVES

Pavlova, Galinka
Vice President of the Bulgarian Medical Association,
CEO of "DCC 5 Varna – St. Ekaterina" Ltd.

Summary: The aim of the study is to analyze the advantages provided by the implementation of corporate health insurance and the extent of its application in the Bulgarian market. It considers trends related to the sectors and largeness of the organizations where Supplementary Health Insurance is a powerful incentive for significantly better activity and loyalty of the employees towards the companies they work in.

Key words: Corporative Health Insurance, social incentives for workers.

Material and methods: A sample of respondents was analyzed - 92 employees in companies providing their employees with SHI; and 57 employers from different sectors running organizations with variable sizes at the cities of Sofia, Plovdiv, Varna, Burgas. The study was conducted between May and December 2016.

Conclusion: The state of healthcare in Bulgaria determines a potential for a real and practical working SHI. The deployment of insurance companies in the field of health insurance depends to a large extent on policy-making decisions in the health and insurance sectors. Regulatory changes are necessary to develop social stimulation through corporate health insurance into a significant incentive for better activity and increase of employees' productivity and loyalty towards the organization they work in.

VASCULAR ACCESS FOR HEMODIALYSIS – EVIDENCE BASED MEDICINE

Prof. Dr. Petar Dejanov
Vascular Access Unit, Clinic of Nephrology, Medical Faculty Skopje

Arteriovenous fistula (AVF) is the most appropriate access for hemodialysis (HD), due to the low percentage of morbidity and mortality, better quality of life, less hospitalizations, and lower maintenance cost. Besides preferable veins, there is also a possible incidental cannulation of the azygos vein. The aim of the case report was to describe the intentional use of v. azygos as a VA for HD, although not common in usual HD practice, it saves patient's life. The female patient (V.S.) at age of 62 years with diagnosis – essential hypertension, nephroarteriolosclerosis, chronic renal failure of V stage, renal osteodistrophy, period of post parathyreidectomy surgery, syndrome of v. cava superior. The patient had exhausted VAs for HD and had serious problems to be on regular HD program. She has got three failed AV fistulas, one failed AV graft, more than forty CVCs of femoral, subclavian and jugular veins which caused stenosis and thrombosis of v. cava superior and v. cava inferior. Due to these complications, v.azygos was enlarged which gave an opportunity to be used as unusual VA for HD. After app. 10 years on HD, the patient went to a terminal phase of VA for HD, as all usual accesses for HD were previous used and because of thrombosis of v. cava superior and its spreading in right atrium. After three successful HD sessions, performed with Tesio catheters, the catheter from v. azygos was removed. The patient continued with regular HD program four times per week for app. four hours. After e year and a half, after the surgical intervention, Tesio catheters had been in good condition. Echocardiography was performed four times and showed ejection fraction more than 60%, without additional thrombotic masses. Due to this experience for unusual VA using v. azygos for HD session, it can be concluded that this type of access is possible to be performed when all the other VAs are exhausted.

Key words: vascular access; hemodialysis; v. azygos.

EARLY ORAL FEEDING AFTER LARYNGECTOMY

D Pazardzhikliev MD, Assistant Professor , I Doykov MD, Associated Professor, D Vicheva MD Associated Professor, I Yovchev MD, PhD, Professor

Background: Pharyngocutaneous fistula is the most common complications of laryngectomy with psychologic, medical and economic consequences. It has many predisposing factors, but early oral feeding might not be one of them.

Methods:we have started oral feeding on 72nd hour in 21 laryngectomees aged from 44 to 82 years. None had previous radiotherapy. Half of them had a feeding tube that we removed once oral feeding was started the rest did not have a feeding tube. 18of the patients underwent selective neck dissection. Pharyngeal closure was I-shaped, double layered, with running Connell suture using 4-0 Vicryl. All patients had proton pump inhibitors in the postoperative period and perioperative antibiotic prophylaxis.

Results: We observed fistula formation in two patients. One was 82 years old and had a feeding tube, the other was 66 years old and did not have a feeding tube. None of them had neck dissection, neither of them had anemia or low protein levels preoperatively.

Conclusions: In our hands early oral feeding is related to slightly higher rate of fistula formation, but much better psychological comfort, than delayed feeding. We would advocate early oral feeding with meticulous surgical technique and detailed patient consent

CERVICAL NECROTIZING FASCIITISD

Pazardzhikliev MD, Assistant Professor,I Doykov MD, Associated Professor, D Vicheva MD Associated Professor, I Yovchev MD, PhD, Professor

Background: Necrotizing fasciitis is a life-threatening infection usually affecting skin and superficial fascia. Meticulous surgical debridement is the mainstay of treatment. Pneumorachis is the presence of gas in the spinal canal. It is usually a result of trauma or iatrogenic. In the literature we have found a single case of pneumorachis due to sepsis. We describe a case of cervical necrotizing fasciitis affecting the deep cervical fasciaextending to the spinal canal with pneumorachis.

Methods: A 61-year-old female with, fever 39.8 ° C and severe throat pain. She was unable to swallow fluids and foods and own saliva. The complaints have progressed in the course of a week. She was treated at home with homeopathy.At admission, she had foetor ex ore, drooling saliva mixed with a greyish black exudate, no trismus. There was redness and swelling of a rear pharyngeal wall with a small ulcer from which a necrotic material was draining.

Blood pressure was 120/70, heart rate 115, Complete blood count showed WBC: 38x109 / l, glu: 26.4 mmol /l. She was not treated for diabetes until this moment. Computed tomography of the neck found gas collections in the retropharyngeal and lateropharyngeal space. As well as at the back of the neck, in the spinal canal from the level of the axis of C2 to the 2nd thoracic, and also in the subclavicular are and around the apices of lungs.

Results: the retroparyngeal space was drained transorally. Necrotic tissue was found and no pus. It was then rinsed with iodine solutions and diluted hydrogenperoxide. The lateral space was drained externally, but did not reveal any purulent collection or necrotic areas. At the intensive care unit treatment started with Clindamicyn, Metronidazole, Meropenem, Amikacin. Circulation was restored, she was apyrexial. Wound culturing revealed Streptococcus pyogenes known to cause necrotizing fasciitis.Inflammatory markers started to drop, but the patient suffered acute circulatory failure and cortical damage 48 hours of admission. She passed away 4 days later with multiple organ failure.

Conclusion: Cervical necrotizing fasciitis may affect only the deep fascia. Extent of affected tissues may be difficult to assess clinically and debridement virtually impossible. Although rare pneumorachis rarely occurs adjacent to an aggressive infection in the oral cavity and pharynx. It is a very bad prognostic mark

UNHAPPY OUTCOME AFTER TOTAL HIP REPLACEMENT - INTRAPELVIC CUP MIGRATION

V. Spassoff . PhD, B. Tasev, H. Hristov, Emergency Hospital „Pirogov", Sofia, Bulgaria

Introduction: Intrapelvic acetabular cup migration is a serious complication, which can occur after cup loosening following total hip arthroplasty.If perforation of the medial acetabular wall occurs, injuries of intrapelvic structures may result. Severe total hip arthroplasty failure with central migration of prosthetic components is uncommon.To make safe intrapelvic implant removal, several principles must be respected: identification of potential risks, preoperative planing, preserving muscle and bone stock, pelvic anatomy reconstruction.

Methods: A 62 y.old lady with OA of the left hip,treated with THR 10 years ago.She was admitted in the hospital,because of fever and pain arround the hip and length discrepancy.We started diagnostic procedures with complete radiological workup and angio-CT, blood workup and joint aspiration for signs of inflammation. As a result a serious complication after THR was found:intrapelvic cup migration and haematoma and external iliac artery damage. On the first stage we performed stenting of the artery oclussion and evacuation of the hematoma. Two weeks later a removal of all implants was carried out.

Results: As a result of the surgery the general condition of the patient was improved and sepsis was contained.

Conclusions: Vascular injury after total hip replacement is very uncommon. Late injuries may be caused by compression and erosion of the vessel wall. Contiguous erosion may cause laceration of the arterial wall with continuing leakage of blood.

TRAUMATIC AMPUTATION VERSUS LIMB SALVAGE

Spassoff . PhD, B. Tasev, H. Hristov H Emergency Hospital „Pirogov", Sofia, Bulgaria

Introduction: In recent years there has been an increase in the number of patients sustained traffic accidents as motorcyclists.

Methods: For a period of 6 weeks five patients were admitted after a traffic accident with a motorcycle. All of them were with tibia open fractures - III B (four men and a woman aged 21 to 37 years). Patients were treated according to the concept of DCO: Debridement, Lavage, Ex. Fix, VAC. In three patients the bone defect is filled with a primary spacer. Due to vascular complications and infection an amputation of tibia was made in one patient two weeks after admitting. A conversion was made five days after the accident in four patients. An osteoplasty with bone graft was made six weeks later.

Results: Nevertheless different approaches in these patients good results were made in four of them. An osteoplasty with bone graft was made six weeks later.

Conclusion: Despite the severe injuries treated by primary amputation in the past, DCO approach and modern reconstructive techniques allow salvation of the limb.

CLINICAL RESULTS AFTER EXTREMITAN INJURES IN POLYTRAUMATIZED PATIENTS

V. Spassoff . PhD, B. Tasev, H. Hristov, Emergency Hospital „Pirogov", Sofia, Bulgaria

Introduction: Polytrauma traditionally considered a problem in action, but in recent decades, steadily increasing the scale of polytrauma in pecetime.Today polytrauma is a major cause of mortality in people under 40 years of age. This situation has led to the concept of war trauma in peacetime.

Methods*:* During 24 months study period a total 180 high-energy polytraumatized patients were admitted. 93 patients out of the 180 /45%/ were classified as borderline /EHP-BL/.

Results: Clinical case N.D. 33y. Sustained a car accident as a passenger. Admitted at the emergency room at 9 pm,1 hour 15 min. after the accident. Diagnostic procedures: CT Body, X Ray, Lab. BLP ISS -43 Traumatic shock, Brain concussion, Fractured ribs 2-4 right, Severe open fractures of tibia R/L 3B 3A. Results: At Emergency Theatre: Chest drainage, Irrigation and debridement , Ex fix op. time-45 minutes. On the 6th post. day a conversion was carried. ICU - 9 days. Complication: Due to infection in the right leg we made several revisions of wounds. On the 6th week a plastic cover with a free skin-muscle flap was made. Due to prolonged infection the nail was removed and replaced with a VancoGen. covered nail. Due to infection the intramedullary nail was removed and the limb is immobilized in a plaster -Sarmiento type. Treatment currently still 26 months and persistent wound infection is obvious. The patient denied amputation of the right knee.

Conclusions: The injury is a major factor disablement, poor long - term psychosocial status and permanent disability. It is an economic burden to society with a lasting impact on the individuals concerned and their families.

CONVERSION - FROM Ex FIX TO INTERNAL FIXATION IN POLYTRAUMA PATIENTS - WHO STAGE

V. Spassoff . PhD, H. Hristov MD, B. Tasev MD
Emergency Hospital „Pirogov", Sofia, Bulgaria

Introduction: The concept of the Damage Control approach includes fast life-saving operations only on vital signs and the quickest accommodation to stabilize. Damage Control (DC) in the treatment of the patient with polytrauma has been developed in an attempt to answer the question of when and how to treat a patient with severe trauma based on our understanding of the inflammatory response to the trauma. Conversion - a period between primary stabilization with an external fixator and definitive osteosynthesis. Early conversion from external to internal fixation improves bone adhesion and functional recovery.

Methods: For a period of 5 years, 93 patients were treated with polytrauma in a borderline state. Patients had an average age of 42.23 ± 16.07 years in the range of 17-81 years, of whom 60 (64.5%) and 33 (35.5%) were women.

Results: Mean values of ISS - 38. Conversion was performed on: 10 patients - 3rd day; 41 patients - 4th day; 20 patients - 5th day; 9 patients - 6th day; Patients have: Stable haemodynamics; Stable saturation; Lactate < 2 mmol / l; No deviation in coagulation; Normal body temperature; Diuresis > 1 ml / kg / hour; No need for catecholamine support.

Conclusion: The literature data available suggests that early definitive stabilization (2 day) indicates a higher incidence of polyorgonal damage (46% compared to 15.7% in the conversion group between 3rd and 6th post-traumatic Day). On single occasions, due to poor clinical performance, we went to conversion after the 6^{th} day. Our experience is based on evidence that the third post-traumatic day is safe for conversion.

EARLY AND LONG TERM COMPLICATIONS IN BORDERLINE PATIENTS

V. Spassoff . PhD, , H. Hristov MD, B. Tasev MD Emergency Hospital „Pirogov", Sofia, Bulgaria

Introduction: The boundary state of sick, technical and tactical errors are defined as complications. They are dependent on: time to hospitalization, ISS, open / closed fractures, conquest.

Methods: Out of the 93 injured and borderline patients, 51 were men aged 18 to 65 and 42 women aged 18 to 74 years. After car crash-81, after height trauma-9, with other injuries - 3 sick.

Results: Conversion was performed between the 5th and 6th day in 9 of the patients with delayed bone intergrowth. In patients with delayed bone adhesion and bone fracture of the lower leg, 5 were type III B, 2 were patients with bilateral trauma and one with type III A.

Conclusions: The functional outcome of the treatment of patients who have survived multiple trauma is determined by the behavior and outcome of the treatment of associated skeletal and muscular injuries. Therefore, the admission of improperly healed or non-grown fractures is of the utmost importance for optimizing the sustained outcome of high energy trauma.

A CASE OF INFECTED PSEUDOARTHROSIS OF THE FEMUR AFTER OPEN SUBTROCHANTERIC FRACTURE

V. Spassoff . PhD, , H. Hristov MD, B. Tasev MD
Emergency Hospital „Pirogov", Sofia, Bulgaria

A 40-year old female sustained 3B open subtrochanteric fracture of the left femur with massive soft-tissue defects of both gluteal regions. She was treated initially with an angled blade plate in another institution. Postoperatively she developed signs of osteomyelitis - the plate was removed and thorough debridement was performed, the soft-tissue defect was covered and after 3 months IM nail was introduced. Over a period of 18 months the fracture did not heal, so the nail was removed and the patient was treated functionally for 6 months. At the end of this period there were no clinical and laboratory data for infection, and the bony defect was bridged with an antibiotic-coated IM nail and a 9,5 cm frozen cortical allograft. After failing to achieve union, both the nail and graft were removed, and antibiotic spacer was placed for 6 months, followed by total hip replacement.

REHABILITATION TECHNIQUES AFTER ARTHROSCOPIC INTERVETION IN THE KNEE

Kazalakova K. PhD, Andreev A. MD, Spassoff V. PhD
Emergency Hospital "Pirogov", Sofia, Bulgaria

Introduction: Impaired of ACL leads to severe loss of front-rear and rotary stability of the knee, prerequisite for subsequent damage to other intra-articular structures. This leads to early OA and early disability involved young patients of working age.

Methods: The study included 25 patients with allograft surgery and 25 patients with autograft. Patients were treated by means of kinesitherapy: cryotherapy techniques, mechanotherapy, therapeutic exercise.

Results: Patients with autograft surgery observed deficit in power in flexion average of 15% compared with the healthy limb in extension - too. Patients with allograft surgery have increased muscle stability, minimal postoperative swelling, restored volume movements on average ten days, the assessment of strength of flexion and extension is significantly increased compared to the other group of patients.The

duration of disability: with allograft surgery- about 2 months and autograft surgery - 6 months. Discussion: The duration of the convalescent period is reduced due to limb salvage with allograft in order to preserve the proprioretseptivnite mechanisms and balance between the flexor and extensor muscle groups.

Conclusion: preserve muscle balance in patients with allograft surgery allows faster recovery and resocialization

PHYSOTHERAPY APPROUCH TO PATIENTS WITH THERMAL INJURY

Kazalakova K. PhD, T. Vlahova, Andreev A. MD
Emergency Hospital "Pirogov", Sofia, Bulgaria

Introduction: To prevent complications after burning.

Methods of study: assessment of breath, functional assessment of affected areas, and evaluation of trofic muscle imbalance**.** Metods- inhalation therapy, passive and active physiotherapy, treatment of thermal injury by means of preformed physical factors. **Results**: For the last six years we treated about 180 patients with different types of thermal injuries and complications. 58 of them had treatment for 4 months, 65 patients - 6 months and 57 patients - about 18 months.

Conclusion: Physician medicine and rehabilitation is an interdisciplinary specialty treating in the first hours. It would be impossible for the quick and timely resocialization and restoring the damaged functions of the patients suffered burns, without the participation of rehabilitation teams at the bedside of the patient.

TREATMENT OF HIGH-GRADED EPYPHYSIOLISIS USING GANZ REALIGNMENT OSTEOTOMY

Dr. Stefan Tserovsky, Prof. H. Georgiev , MD, PhD
Department of orthopaedic surgery, Medical University Sofia

Aim of study: Results follow up in cases of treated high-grade epyphysiolisis (PTA > 30) with subcapital osteotomy with surgical hip dislocation.

Material and methods: Sixteen patients on an average age of 11.9 +- 1.7 years were operated by the presented technique. Eleven patients demonstrated chronic symptoms and 5 had acute on chronic symptoms. Five cases were unstable epyphysiolisis. Average preoperative Gekeler angle was 119.75+-16.03 (min.- 92, 44% were normal) , pathological PTA is 64.62+- 16.03.

Operative technique includes Ganz safe surgical hip dislocation after a Z-shaped capsulotomy and a relative femoral neck lengthening. We performed remodeling of a posterior periosteal cover, containing the retinacular vessels and the distal branches of a. circumflexa femoris medialis supplying the femoral head . We proceeded with gentle separation of the epiphysis through the physis , femoral neck osteotomy, anatomical reposition of the epyphysis and osteosynthesis. Trochanter major is reattached and transferred distally.

Results: Average follow up period: 29+- 15.11 m. In all cases the anatomical angles were improved to a normal physiological grade – Gekeler angle (141.06 +-7.77) (p<0.001) and PTA (5.18 +- 3.48) (p<0.001) . Avascular necrosis was found in 18.75%. Good and excellent Heyman Herndon results presented in 11 cases.

Conclusion: Advantages of the technique are anatomical remodelling of the distal femur with a direct operative view , keeping the epiphyseal blood supply intact , achieving relative femoral neck lengthening , possibility for early rehabilitation and prevention of intra – and extraacetabular FAIConclusion: Advantages of the technique are anatomical remodelling of the distal femur with a direct operative view , keeping the epiphyseal blood supply intact , achieving relative femoral neck lengthening , possibility for early rehabilitation and prevention of intra – and extraacetabular FAI.

OPEN FRACTURE OF THE LOWER LEG-IS IT SUITABLE TO USE MUSCLE FLAP COVERAGE?

Dr. T. Papurov, Prof. Dr. D. Boshnakov
Varna, Bulgaria; University Hospital 'St. Anna Varna' - Clinic of Orthopedics and Traumatology
Prof. Dr. Diko Boshnakov: *Clinic of Orthopedics and Traumatology Hospital 'St. Anna Varna' - Varna*
Dr. Tihomir Papurov, *Surgery Hospital 'Papurov' - Targovishte;*

Introduction. Soft tissue defects of the shank still present a real challenge to the surgeons. The recovery is hard because there is a lack of soft tissue in the middle inner surface of the lower leg. The application of some regional flaps is not always the best treatment method. They may be too small to cover bigger defects or may have impaired local blood supply. In our study the use of regional skin pedicle flaps presents an alternative to risky microsurgical procedures. Muscle flap coverage is a commonly used method by most of the surgeons because of the good vascularization and high resistance to infections of the flaps. Adipofascial grafts still provide an alternative for covering defects of the lower leg with an open fracture bone. This method is characterized with a lot of potential zones for elevating flaps and it keeps the important local blood vessels. The aim of our study is to make a comparison of these kinds of flaps in order to assess their role in recovering soft tissue defects of the shank with bone exposition.

Methods. Our study includes 34 patients (19 men and 15 women) aged between 26 and 56 years. Their problems resulted from soft tissue defects located between the knee and the foot. Muscle flap coverage was applied to 17 of the patients. The other 17 patients were treated with adipofascial flaps.

Results. Evaluation criteria of the flaps:

1. Surgical complications – partial necrosis, local wound problems, wounds of the donor place;

2. Final aesthetic effect.

Partial necrosis of the free graft was observed in both groups of patients. Fistulas of different character were formed in both groups, too. One of them was formed

after covering the exposed implant and the other one was based on bone sequestrum. These problems were solved after removing the implant, performing a debridement and **sequestrectomy and at last but not least prescribing an adequate antibiotic therapy. In the early postoperative period, concerning the patients with adipofascial flaps, hypesthesia was observed distally based from the donor place. It was not recognized as a serious problem because it was soon overcome.**

Conclusion. The use of muscle flaps has proved its effectiveness concerning soft tissue defects with exposed sections of the tibia. The regional muscle grafts have changeable vitality – that is the reason why they are not always applicable for severe injuries. On the other hand, the transfer of muscle may cause morbidity of the donor place and some cosmetic issues as well. The adipofascial flaps seem to be an adequate alternative. The fascia ensures good vascularization of the graft and the flap is secure in the traumatic areas. The latest clinical studies have shown that non-muscle tissues like adipofascial ones may be used effectively for bone coverage after an aggressive debridement, which is a key factor for the success of the procedure. There are no significant differences in the effective covering through fascia or muscle. The quality of the coverage is estimated differently in both kinds of flaps. Regarding the adipofascial ones, we have 14 patients and the aesthetic result was rated as good by 82% of them. On the other hand we have 12 patients treated with muscle flaps. 71% of them rated the cosmetic result as good. In many cases, concerning bone and implant exposition, the final outcome after muscle or fascial coverage is the same. Muscle coverage of the exposed bone is not obligatory. The adipofascial flaps may provide an adequate alternative with fewer complications and better aesthetic results.

DIABETES

DIABETIC RETINOPATHY - TREACHEROUS ENEMY OF DIABETIC PATIENTS

Maja Bošković

The **goal** of the work: To show the level of representation of diabetic retinopathy because it is a serious complication of diabetes which is a result of high disability.

Method of work: Examined 129 diabetics over the age of 65 years from a total of 416 patients of health care, in the health institution "Delijski vis", from Niš, during the past year. Risk group of 54 long-term insulin-dependent diabetes was analyzed.

Results: With the population of health care health institution Niš, diabetes mellitus is present in a high percentage. In our sample of 416 users, mostly over the age of 65 years, diabetes was present in 31%.

Diabetic retinopathy, which is the primary problem of this release, was represented by 66.7% in the total number of diabetics and finding coincides with finding of other authors who deal with this problem. An additional problem is that the malignant retinopathy was present in 8.1% of diabetics.

In most countries, diabetic retinopathy infamously occupies third place as a cause of blindness. When the illness lasts longer there is more frequent retinopathy. We can say that after 20 years of diabetes mellitus 2/3 of patients have diabetic retinopathy. In most caces the changes are minimal and do not show that will progress. Only at 8% of patients with diabetic retinopathy, after duration of diabetes for 15-20 years we have seen malignant stream that directly threatens the vision.

Conclusion: And all the so-called complications of diabetes and diabetic retinopathy also begins insidiously, a long-time and advanced retinopathy threatens the patient's vision, threatening the development of blindness. Base is timely and long-term control of diabetes. In that case, it is less frequent diabetic retinopathy and in those with advanced diabetic retinopathy, and even in the phase to cancer, with good control of diabetes mellitus will result in settling of the process, and sometimes to achieve and its regression.

DIABETES AND COGNITION

Prof. Latchezar Traykov
Department of Neurology, University Hospital “Alexandrovska”, Sofia, Bulgaria

Several lines of investigation suggest a link between diabetes and disorders of cognitive functions. The domains of information processing speed, executive functioning and memory are most often affected. The term executive functions refers to cognitive processes necessary to the successful planning, decision making, judgment and and monitoring goal-directed behaviour. In an environment with changing conditions, the executive functions apparently directs activities that demand novel responses. Besides cognitive symptoms, behavioural, emotional, and motivational disturbances may be observed, such as apathy, indifference, impulsivity, irritability, and disinhibition.

Traditionally, executive dysfunction was exclusively related to damage to the (pre)frontal cortex. More recently however, it has been shown that brain damage distant from the frontal lobes, damage to subcortical structures or interruption of connections between frontal and non-frontal areas, may also impair executive functions.

Structural brain imaging studies in older adults with diabetes show that cerebral atrophy and lacunar infarcts are more common, relative to people without diabetes. In addition, there are clear indications that diabetes is a risk factor for widespread incomplete infarction, which are associated with more chronic, diffuse, and less severe ischaemia. The dysexecutive syndrome observed in these patients probably results from ischaemic interruption of parallel circuits from the prefrontal cortex to the basal ganglia and corresponding thalamocortical connections. Possible risk factors for impaired cognition and subcortical brain imaging abnormalities in diabetes include many factors that are linked to diabetes but are not specific to diabetes, like hypertension and hyperlipidemia.

METABOLIC SYNDROM, PRE-DIABETES AND DIABETES

Prof. I. Daskalova, DSc, Tz. Totomirova,PhD
Clinic of Endocrinology and Metabolic Disease, Military Medical Academy, Sofia,Bulgaria

Background: The prevalance of type 2 diabetes mellitus is rapidly increasing recent years. Differentiation of prediabetic state is a corner-stone for prevention and delay of disease onset in groups with multiple risk factors. The term ‘metabolic syndrom’ describes combination of dyslipidemia, hypertension, impaired glucose tolerance and abdominal obesity with insulin resistance as a common basic reason.Questionaries and risk scores are used in population assesment for detecting patients at risk but have moderate specificity and sensibility. Measurement of fasting glucose or prandial glucose, as well as glyceted haemoglobin (HbA1c) and oral glucose tolerance test (OGTT) could confirm diabetes or impared glucose tolerance but they are invasive and time consuming. Some new technologies assessing dermal changes in perspiration like EZscan are recently used with good specificity and sensibility.

Method: We designed our study to compare different methods for carbohydrate disorder detection. In group of 124 patients (64 males, 60 females, mean age 43.4±8.9years) we assessed diabetes risk by using questionary and performed measurement of weight and waist circumference, lipid profile and fasting glucose. In those with diagnosed metabolic syndrom we measured also, HbA1c and OGTT and risk scores were estimeted. In addition we performed an additional EZscan test in which diagnosis is based on measurement of electrochemical skin conductance.

Results: 87 of patients were assessed with high risk and in 65 patients metabolic syndrome was diagnosed. In 38 patients (58.4%) diabetes mellitus was found by using EZ scan. Diagnosis was confirmed with OGTT in 35 patients (53.8%).HbA1c was less specific for diagnosis diabetes – 23 patients (35.3%).EZscan was easy to perform, noninvasive method, taking no more than five minutes, with no need of special conditions. In contrast to OGTT is invasive, takes at least two hours, demands fasting state and some other specific conditions.

Conclusions: We confirm that risk assessment questionaries have bad specificity for detection of diabetes. EZscan could be used as test with similar to OGTT power for diagnosis of diabetes but with some additional advantages that make it useful in clinical practice and epidemiologic studies.

THE ROLE OF SURGEON IN TREATING DIABETIC FOOT: OUR EXPERIENCE AND LITERATURE REVIEW

P. Daikou MD, MSc[1], E. Pappa MD[2], C. Loupa MD[2], E.Voyatzoglou,[2] A. Donou, [2]
A.Dounavis MD, Phd[1], S. PapanikolaouMD[1]
[1]Surgical Department, Amalia Fleming Hospital, Athens, Greece
[2]Internal Medicine Department and DemetriosVoyatzoglou Diabetic Foot Clinic, Amalia Fleming Hospital, Athens, Greece

Background: Diabetes mellitus (DM) is one of the main problems in health systems. It is expected that the number of patients with diabetes will increase over the next decade. Patients with DM are prone to multiple complications such as diabetic foot ulcer (DFU) which affect 15% of diabetic patients during their lifetime.The economic, social and public health burden of these ulcers is enormous. Multiple risk factors have associated with the development of DFU such as gender, duration of diabetes, age of patients, high BMI, and other comorbidities. Diabetic neuropathy and peripheral vascular disease are the main etiological factors in foot ulceration. The assessment of peripheral neuropathy and evaluation of peripheral arterial status are the two important investigations in a diabetic foot.

Methods: We present a retrospective study in cooperation with the Internal Medicine dept. We hospitalized 72 patients with diabetic foot infection during a 3 ½ year period. Fifty-three were men and 19 women (age 43-90 yrs).

Results: Twenty-two patients underwent an amputation (30.5% of the pts). We performed 5 major amputations (above ankle) and the rest were minor. The rest 50 patients were treated with debridement, surgical drainage in combination with antibiotics, offloading and daily wound cleaning.

Conclusion: Current treatment of DFU should involve multidisciplinary team approach in order to prevent complications such as infection, gangrene, amputation and even death. The main components of management that can ensure successful and rapid healing of DFU include education, blood sugar control, wound debridement, advanced dressing, offloading, surgery and advanced therapies. Surgeons role, as a part of a multidisciplinary team, is 1) Appropriate and timely removal of callus from a diabetic neuropathic ulcer 2) Arterial reconstruction, sympathectomy and amputation of a diabetic ischaemic foot.

WHEN AMPUTATION IS NEEDED IN DIABETIC FOOT?

E.Pappa,[1] S.Papanikolaou,[2] A.Donou,[1] E.Voyatzoglou,[1] A.Dounavis,[2] C. Loupa[1]
[1]Demetrios Voyatzoglou Diabetic Foot Clinic, [2]Department of Surgery, Amalia Fleming Hospital Unit, Athens, Greece

Introduction-Aim: According to St Vincent declaration (1989), amputations had to be dramatically reduced by half. But, despite that, every 20 seconds a lower limb amputation is performed worldwide in diabetic patients. Aim of this study was to record amputation rate among hospitalized patients with diabetic foot infections.

Patients & Methods: This is a retrospective study. During a 3 ½ year period (1/1/2014 – 30/6/2017), 118 patients with diabetic foot were hospitalized, in either Internal Medicine dept (including Nephrology dept) or Surgery dept.

Results: Seventy-two out of 118 were hospitalized because of diabetic foot infection (PEDIS 3 or 4 according to IWGDF) and the rest for other causes. Fifty-three were men and 19 women (age: 43-90 yrs). Thirty-one of 72 required multiple hospitalizations. Amputation was performed in 22/72 patients, while the rest were treated with debridement done by experienced diabetologist, podiatrist or surgeon, or with surgical drainage. All of them were treated with targeted or empirical antibiotics, offloading, and daily wound cleaning. Amputations performed were: 5 major (above ankle) and the rest minor amputations.

Conclusions: In our diabetic foot clinic, most patients with diabetic foot infections are treated as outpatients. Only a minority of patients are hospitalized (patients with PEDIS 4 infections, and selected patients with PEDIS 3 infections. Osteomyelitis is not a criterion for hospitalization). In the past 3 ½ years, only 5 major amputations and 17 minor amputations were performed in our hospital in diabetic foot patients.

EMERGENCY MANAGEMENT AND RESUSCITATION OF THE CRITICALLY POISONED PATIENTS

Daniela Chaparoska,[1] Mirjana Sosholceva,[2] Suzana Nikolovska [3] and Natalia Baneva Dolnenec[4]
University Clinic of Toxicology and Emergency Medicine[1], University Clinic of Anestesiology and Intesive Care[2], University Clinic Dermatology, and University Clinic of Neurology[4], Medical Faculty, University Sts Ciryl and Methodius, Skopje, Macedonia

Background: Clinicians are often challenged to manage critically ill poison patients. The clinical effects encountered in poisoned patients are dependent on numerous variables, such as the dose, the length of exposure time, and the pre-existing health of the patient. The American Academy of Clinical Toxicology and the European Association of Poisons Centres and Clinical Toxicologists are the international leaders in the field of toxicology and their guidelines were generally followed. The goal of this study is to introduce the basic concepts for evaluation of poisoned patients and to establish concise guidelines for the initial management of the acutely poisoned patient in the Emergency Centre.

Methods: Acute poisoning (accidental or intentional) requires accurate assessment and prompt therapy. Early identification of the involved toxin/s is crucial and the majority will be identified by a thorough history and physical examination. An ABC-approach should be followed ensuring a protected airway, adequate ventilation and hemodynamic stability. Supportive and symptomatic care remains the cornerstone of treatment. A stepwise approach may be followed to decrease the bioavailability of toxins. Indications, contra-indications, risks and dosage regimens are describe for decontamination procedures including both termination of topical exposures and decreasing exposure to ingested toxins. Furthermore, procedures to increase the elimination of toxins and a short section covering specific toxins and their antidotes are also included.

Conclusion: The management of toxicity in critical care requires significant effort by the clinician to recognize and rapidly evaluate patients in order that focused therapies may be instituted. Incorporation of available scientific data and evidence along with clinical judgment is necessary to determine the best possible therapeutic course. As new agents are introduced into clinical practice or illicit use, it is vitally important that clinicians maintain knowledge of toxic effects and their management.

Keywords: Resuscitation, intesive care, drugs intake, poisoning

DIABETES SEEN THROUGH THE SKIN

Suzana Nikolovska, Associate Professor, MD, PhD, Katerina Damevska, Assistant Professor, MD, PhD, Daniela Chaparoska, Full Professor, MD, PhD, Natalija Baneva, Associate Professor, MD, PhD
University Clinic of Dermatology, Medical Faculty, „University Ss. Cyril and Methodius“, Skopje

Background: Overall prevalence of skin disorder in diabetes varied from 51.1 to 97% in different regions worldwide. Usually neglected and frequently underdiagnosed, skin changes encounter a broad spectrum of disorders and are highly associated with hyperglycemia and advanced glycation and products (AGEs). The aim of this study was to evaluate and analyze the prevalence pattern of skin disorders among diabetic patients. Additionally, management of skin disorders was reviewed and some interesting cases were presented.

Methods: 124 consecutive patients with the diagnosis of diabetes mellitus type 2 and having skin lesions attending tertiary care dermatology clinic were included in this study.

Results: Most common skin conditions in diabetic patients were infections (33%), dermatophytosis being the most common lesions (28%). Of all dermatophytosis, 42% were onychomycoses. Xerosis was registered in 28% of the diabetic patients, diabetic dermopathy in 26% and prurigo in 10%. We also diagnosed more rare manifestations such as necrobiosis lipoidica, diabetic bullae, acquired perforating collagenosis, acanthosis nigricans, lichen planus, scleredema adultorum of Buschke and disseminated granuloma annulare. One patient had severe medicamentous reaction attributed to acarbose therapy.

Conclusion: In conclusion, our study confirmed that identification of lesions may be crucial for proper therapy. Therefore, not only should patients with diabetes be seen by dermatologists at regular intervals, but also the diagnosis of diabetes should be considered in previously unrecognized patients showing typical skin conditions. Furthemore, antidiabetic drugs may cause adverse skin effects, including allergic reactions that require elaborate allergy work-ups.

GYNECOLOGY & OBSTETRICS

THE IMPACT OF CEREBRO-UMBILICAL RATIO IN PREDICTING ADVERSE PERINATAL OUTCOMES IN PATIENTS WITH PREECLAMPSIA AND INTRAUTERINE GROWTH RETARDATION

Dzikova E.,Dimitrov Go., Tofoski G., Hadzi-Lega M., Daneva-Markova A.
University Clinic for Gynecology and Obstetrics,
Skopje, Republic of Macedonia

Background: To compare the fetal circulation Doppler changes in arteriaumbilicalis (AU) and arteriacerebry media (ACM), among normal pregnancies and pregnancies complicated with preeclampsia and fetal intrauterine growth retardation (IUGR) thus to exhibit the best index for predicting adverse perinatal outcome.

Methods: 60 pregnant women were examined at the University Clinic for Gynecology and Obstetrics, Skopje, Macedonia,from 30^{th}-40^{th} week of gestation, 46% with preeclampsia, 23% with IUGR and 50% with normal pregnancy, used as control cases. The Resistance index (RI) of AU and ACM and cerebro-umbilical ratio (CUR) were measured and their mean values, divided in 2 main groups, were compared, using different cut-off values (mean +/-2 S.D.) for the first group from 30th-35th and for the second group from 36th-40th weeks of pregnancy.

Results: Significant differences were found in mean RIAU, RIACM and CUR among normal, preeclamptic and pregnancies with IUGR. All the mean Doppler indices were found different in patients with preeclampsia and IUGR, compared with those of the normal pregnancies. The comparison of preeclamptic patients withan without IUGR, showed different Doppler values. The CUR had the highest sensitivity (87%) and diagnostic accuracy (94%) in predicting the adverse perinatal outcome.

Conclusions: Both abnormal RIAU and CUR are strong indices in predicting IUGR and adverse perinatal outcome in preeclampsia. The Doppler ultrasound (US) analyzes in combination with standard prenatal methods US, cardiotocography (CTG), biophysical profile are very strong predictors of fetal suffering and most important parameters for good perinatal outcome.

THE PREVALENCE OF AGE SPECIFIC HPV GENOTYPES IN YOUNG PATIENTS WITH NORMAL CERVICAL CYTOLOGY

Dimitrov Go., Dzikova E., Tofoski G., Hadzi-Lega M., Daneva-Markova A.
University Clinic for Gynecology and Obstetrics,
Skopje, Republic of Macedonia

Background: The Human papillomavirus (HPV) is the most common cause for cervical dysplasia andhas the leading etiologic role in development and progression of cervical cancer, one of the most frequent forms of cancer among women in developing countries. The aim of our study was to estimate the age and genotype-specific prevalence of cervical HPV DNA in girls and adolescent women with normal cervical cytology.

Methods: 1070 girls and adolescent women underwent routine conventional smears (Pap tests) and received normal colposcopic and cytological diagnoses. In each case HPV infection was primarily evaluated by PCR for HPV genotype determination.

Results: From 1070 patients investigated, 110 were HPV positive. The most prevalent genotypes among the infected samples were: HPV16 (32.5%), HPV31 (17%), HPV18 (8.5%), and HPV52 (7%). The rest 35% falls off other undetermined types of HPV genotypes.

Conclusions: Today in the era of HPV vaccines, it is very important to evaluate the distribution of potentially malignant HPV genotypes by using molecular investigation for HPV genotypes thus predicting the effect of vaccines on the incidence of infection. Also the determination of HPV genotypes in young patients gives us the opportunity for timely treatment consequently preventing the development of cervical precancerous lesion and its development to the most frequent form of cancer among women in developing countries

PREGNANCY OUTCOMES AFTER TREATMENT FOR CERVICAL CANCER PRECURSOR LESIONS

Goran Dimitrov, MD PhD, Asst. Prof
President of the Macedonian Medical Association (MMA)

Cervical cancer precursor lesions are relatively common problem, especially in women of reproductive age. Laboratory surveys (in the USA) from the mid-1990s from the College of American Pathologists suggest that more than 1 million women are diagnosed each year with low-grade cervical intraepithelial lesions, referred to as CIN 1, and that approximately 500,000 are diagnosed with high-grade cervical cancer precursor lesions, referred to as CIN 2,3.

Women treated for cervical intraepithelial neoplasia (CIN) have increased risk in future pregnancies of perinatal mortality, preterm deliveries, low birth weight and other adverse pregnancy outcomes.

It has been recognized for some time that cold-knife conization increases a woman's risk of future preterm labor, a low birthweight infant, and cesarean section. Cervical excision removes part of the endocervical canal and as a result the mucus-secreting endocervical glands, which produce secretions facilitating penetration of the sperm and conception. This has been suggested to adversely affect the chances of conception.The loss of the normal functional cervical structure and the healing process in the regenerated crater after excision may also induce severe stenosis of the cervical os, which may further inhibit sperm penetration and conception.

Other treatment methods were thought to have no adverse effects on future pregnancies. Several large retrospective series have now reported that women who have undergone a loop excision procedure or a laser conization are also at increased risk for future preterm delivery, a low birthweight infant, and premature rupture of membranes. Although in most studies ablative methods have not been shown to be associated with a similar adverse effect on pregnancy outcome, it is difficult to measure small effects on pregnancy outcome, and therefore, it is possible that ablative methods have an adverse effect on future pregnancies.

The impact that treatment may have on conception and child bearing causes anxiety to women requiring conisation. Although the impact of treatment on obstetric outcomes has been the subject of previous reports, there is little evidence on the effect that this has on the ability to conceive and early pregnancy outcomes, particularly the rate of miscarriages in the second trimester.

Several large cohort studies, have found increased risks of adverse pregnancy outcomes after treatment for cervical cancer precursor lesions. However, the risk may depend on the treatment method, the extent of excision, and other factors manifested as temporal trends. In addition, it is important to update the estimates for the current adverse effects of treatment to inform decisions on target age groups and new screening algorithms that respect an adequate balance of benefits and harms.

Based on our findings, we believe that women should be informed about their future risk of adverse pregnancy outcomes, particularly preterm birth, after excisional treatment for cervical lesions. The treatment quality (type and depth of excision) seems to influence the risk increase. To conclude, it is important to provide the least destructive but effective treatment for women of childbearing age. Primary prevention of cervical cancer and its precursor lesions by HPV vaccination will also decrease the burden of cervical treatments in the future.

While we believe our finding of increased pregnancy rates among women undergoing cervical treatments most likely represents unmeasured confounding, there may be an underlying biologic relationship between pregnancy and progression of HPV infection to precancerous lesions and cervical cancer. Several studies have reported that multiparity is associated with an increased risk of cervical intraepithelial neoplasia, and several authors have speculated that hormonal and immunologic changes during pregnancy may facilitate HPV DNA integration and progression of infection. Alternatively, there may be factors (such as host immune responses) that both make successful pregnancy more likely and facilitate HPV integration and progression.

To conclude, treatment for cervical cancer precursor lesions increases the risk of preterm birth and this risk increases with increasing depth of excision. However, another recent large series reported that women after conisation take longer to conceive than untreated women or women attending colposcopy, but not surgical treatment. The conclusions of the biggest meta-analysis, done by Arbyn and al., in 2008 is that - in the treatment of cervical intraepithelial neoplasia, cold knife conisation and probably both laser conisation and radical diathermy are associated with an increased risk of subsequent perinatal mortality and other serious pregnancy outcomes, unlike laser ablation and cryotherapy. Large loop excision of the transformation zone cannot be considered as completely free of adverse outcomes.

Future studies should carefully explore association between treatment and subsequent reproductive outcomes stratifying by the size of excision and treatment technique.

REPRODUCTIVE SURGERY PRIOR TO IVF

Tofoski Gligor, MD. PhD. Associate Professor
Medical faculty-Skopje, University "St. Cyril and Methodius"- Skopje, Macedonia

Backgroung: Eventhough assisted reproductive techniques as in vitro fertilization (IVF) are offered as a solution for the infertile couple sooner than before, the role of reproductive surgery prior to IVF in certain cases is beneficial, especially in cases of tubal or uterine diagnostics and pathology.

Methods and results: Laparoscopic approach which is usually used is a minimal access surgery, has better visualization and excellent option for diagnosis, offers different treatment modalities, is more comfortable for the patient and less hospital stay. Still, it is an invasive procedure, involving risk fom anesthesia, operative and postoperative complications.

Relevant indications for reproductive surgery prior to IVF are dependent on several factors: timing of IVF/ET procedure, age of the patient, previous reproductive surgery and existing absolute indication for surgery.Indications for surgery should be some of the following: hydrosalpinx, endometriosis, suspected adhesions, polycystic ovary syndrome, diagnosis of tubal patency, possible adhesions, myomas-submucous or intramural, or existing ovarian cysts.Hysteroscopy is mainly used for treatment of congenital uterine anomalies, submucousmyomas, polyps and correction of diagnosed Asherman syndrome.Laparoscopic treatment is usually reserved for salpingectomy or proximal occlusion of hydrosalpinges, treatment of endometriosis is done by extirpation of endometrial cysts, adhesiolysis and endocoagulation of small endometrial spots. Myomas should be treated if they distort the uterine cavity or if there is prolonged treatment of infertility. Ovarian drilling of polycystic ovaries is a good option for decreasing hyperstimulation syndrome during IVF cycles.

Conclusion: Factor which could influence the reproductive outcome after IVF treatment should be diagnosed and treated prior to beginning of the treatment. In cases of prolonged infertility or suspected tubal or uterine factor, diagnostic hysteron/laparoscopy should be done. Reproductive surgery prior to IVF can have high therapeutic effect and improve the success rate of IVF treatment.

ROUND TABLE

CONCEPTUAL MODEL FOR BULGARIAN HEALTHCARE STRATEGIC DEVELOPMENT

Dr. Andrey Kehayov, MD, PhD
Southeast European Medical Forum, Sofia, Bulgaria

Due to the unstable financial and economic situation in Bulgaria decision making in the field of healthcare management is very complicated. The resources are limited and the expenditure grows, which necessitates development of strategies to solve this issue in each healthcare establishment. The strategies should focus on the following:

- expenditure control
- management competence improvement
- elaboration of scientific estimations
- healthcare market regulation

So far as the healthcare system as a whole is concerned, this presentation offers a conceptual development model covering three main aspects, namely:

- financial indicators
- labour resources
- facilities

In the process of elaboration of such model the impact of a number of factors has to be taken into consideration. For Bulgaria these factors are the demographic crisis (decrease and aging of the population), high morbidity and mortality rates, continuous insufficiency of health expenditure per head of the population, marked decrease in the number of health professionals, general dissatisfaction of the provided health services.

The key points in the proposed strategy are: liberalization of the funding, increase of the salaries of medical professional, introduction of optimal public-private mix, reorganization and improvement of the facilities, and regulation of the active/long-term treatment bed ratio, etc.

THE TELE-CONSULTATIONS IN COUNTERACTING BRAIN DRAIN AND PROFESSIONAL ISOLATION OF THE PHC SPECIALISTS

I. Moroz, (MD, PhD, Dean of the Faculty of Post-Graduate Education of the Belarusian State Medical University, Minsk, Republic of Belarus,
V. Mozheiko (chief-doctor of Ostrovets Central Regional Hospital, Republic of Belarus)

The aim of the survey was the study of the opinion of Belarusian PHC specialists on the information and communication technologies (ICT) usage in Healthcare. The survey was focused on the counteraction of brain drain and professional isolation via tele-mentoring and tele-consultations in remote areas.

Materials and methods: There were 70 specialists of Ostrovec Central Regional Hospital interviewed during the survey. Interview was chosen as the method of the study.

The results of the study: There were 70 specialists who defined the following factors of influence on brain drain: payment, lodging provision, professional isolation, territorial remoteness, available technologies and etc. The main factors of influence on

professional isolation were the following: territorial remoteness, absence of the possibilities to communicate with colleagues, low information provision level, working load of a doctor, low level of technologies, lack of motivation for self-improvement. 34 of 70 (48.6%) specialists considered that tele-consultations had not been the leading factor of counteracting brain drain in remote PHC. However, 36 of 70 (51.4%) professionals considered that tele-consultations could counteract professional isolation in remote PHC.

Conclusion: All the interviewed specialists acknowledged the importance of tele-consultations implementation to support PHC specialists in remote areas.

STRATEGY OF PROPHYLAXIS IN THE REPUBLIC OF BELARUS IN CONTEXT OF ACHIEVING THE GOALS OF THE 2030 AGENDA FOR SUSTAINABLE DEVELOPMENT

T. Glinskaya (Associate Professor, MD,PhD)[1], M. Schaveleva[2]
[1]National Center of Blood Transfusion and Medical Biotechnology, [2]Medical Academy of Post-Graduate Education,Minsk,Republic of Belarus

Background: Solving the problem ofnon-communicable diseasesin the Republic of Belarus requiresnational policy steps according to the 2030 Agenda for Sustainable Development.

Method: The analysis of the state document for program and targeted planning named State Program “People’s Health and Demographic Security of the Republic of Belarus” (further – the Program) has been carried out from the standpoint of achieving the goals of the 2030 Agenda for Sustainable Development. Prophylactic strategies and approaches aimed at solving the problem of chronic non-communicable diseases were the object of the study.

Results: The Program is designed for the period until 2020, one of subprogramsis entirely devoted to the implementation and resource support of prophylactic strategies – “Prevention and control of non-communicable diseases”. The implementation of this Program will contribute to achieving by 2020 the following targets: increased life expectancy (up to 75,3 years); decreased tobacco consumption among people over 16 years (up to 24,5%); increased physical activity of the adult population with daily average physical activity being not less than 30 minutes (up to 40%); reduced daily intake of salt (up to 5 g); reduced death rate among able-bodied population (up to 3,8‰); decreased index of severe primary disability among the working age persons (50%).This subprogram is devoted to four tasks: reduced impact of non-communicable diseases risk through the unique prophylactic environment (25 activities); prophylaxis of non-communicable diseases throughout the life cycle through universal and accessible primary health care services (8 activities); decreased early mortality and stabilizedlevel of disability caused by non-communicable diseases (more than three dozens of activities); ensuring the monitoring of the people’s health through a unified information environment in the healthcare system.

Generalization of international and national experience, analysis of the specific medical and demographic situation in the country made it possible to scientifically ground the scheme for creating a national strategy of prophylactic work. The scheme

includes five risk factors (smoking, alcohol abuse, irrational nutrition, low physical activity and professional risks); five target groups (children and students, persons working in harmful conditions, people over working age, socially vulnerable segments of the population, and policy-makers in the sphere of healthcare); five levels of impact (legal environment, information environment, continuous education in the field of health saving behavior, support for local initiatives, and individual prophylaxis). The realization of national strategy of prophylactic work demonstrates its efficiency.

Conclusion: Scientificallygroundedscheme for creating theBelarusian national strategy of prophylactic work is based on the principle of "three fives" consisting of five risk factors; five target groups; and five levels of impact.

QUALITY OF MEDICAL PRACTICE AND REMUNERATION OF THE MEDICAL SPECIALISTS' LABOUR IN BULGARIA

Dr.Pavlova G.MD, PhD, Vice President of the Bulgarian Medical Association,
Dr. Grozev V. MD.PhD, President of the Bulgarian Medical Association

The Aim of this presentation is to point out the role of the human factor in achieving high quality in healthcare and to answer the question how medics are stimulated to maintain it.

Special attention is paid to the qualification degree and CME, the workload of the teams due to staff shortages and work at more than one job place as well as the lack of relevance between the work of the medical specialists and individual wages.

Study: An inquiry was held, with questions about CME and the individual wages of doctors.

Findings: Chronic underfunding of the system and underestimation of labour of the providers of medical services as well as low incomes of the healthcare workers are cause for increased migration and demotivation for participation in CME which indirectly affect quality.

These reasons lead to unsatisfactory level of the healthcare services. The worrying consequences show higher morbidity, reduced ability to work, higher mortality and loss of workforce.

Recommendations: To develop relevant indicators of the quality of the medical practice, to introduce a mandatory CME and incentives for it, to establish an inner professional informative system to communicate medical shortcomings, to elaborate a methodology for evaluation of doctors' labour and taking into account their individual contribution.

Conclusion: Our healthcare needs an elaboration of a National Human Resources Management Strategy, including Income Management of Healthcare Workers. It is of particular importance to take into consideration also the specifics on regional level, in order to make the system steady and provide premises to ensure a better quality of the medical practice in the country.

Key words: Quality of Medical Practice, Continuing Medical Education, demographic problems, migration, payment for the work of medical specialists.

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