Abstract: Tuberculosis (TB) and HIV/AIDS infection are one of the most ubiquitous and deadliest communicable diseases in the world. They cause millions of deaths each year and are recognized as major threats for public health worldwide. The corresponding pathogens (Mycobacterium tuberculosis and HIV) share overlapping epidemiology—they affect low-income countries and place an immense burden on their feeble health care systems. Over the last decades, the natural history of both diseases has changed; in addition to devastating single HIV and TB infections, the coinfection with both pathogens has emerged and has spread in pandemic scale. When present as dual infection in an individual, Mycobacterium tuberculosis and HIV potentiate each other and kill in cooperation the host. TB is the leading cause of death in HIV-positive patients and in turn HIV infection is the strongest risk factor for the development of new or reactivation of dormant TB disease. Both pathogens (as single or dual infection) provoke a robust immune response in the infected host but the immune system does not achieve to eliminate the infectious agent(s). The failure of immune defense results in vulnerable immune balance between the micro- and the macroorganism and often ends up in a fatal outcome.

Abstract: The aim of the present study was to assess the prevalence of hepatitis B surface antigen among pregnant women in Varna Region, Bulgaria. During the period 2009-2013, an average prevalence of 2.26% (95% CI 1.75, 2.91) was measured in a total number of 2700 samples. Analysis demonstrated that rural residence and minority ethnic origin are important risk factors for hepatitis B infection among pregnant women with relative increase in the prevalence of 2.40 (95% CI 1.46, 3.94) and 2.43 (95% CI 1.46, 4.05) when compared with urban residence and ethnic majority origin respectively.

Tsankova G., Todorova T. T., Kostadinova Ts., Ivanova L., Ermenlieva N. Seroprevalence of Syphilis among pregnant women in Region Varna (Bulgaria), *Journal of Acta Dermatovenerologica Croatica*, 2016, (in press, pp.6); (I.F. 0.431)

Abstract: Syphilis is a sexually transmitted disease with continuously rising rates among European countries. The vertical (mother to child) transmission is an important way of dissemination, often leading to stillbirth and permanent impairment of the newborn. We present a retrospective cross-sectional analysis of 2702 pregnant women tested for syphilis seropositivity. During the study period (2009-2013) non-specific and specific treponemal antibodies were detected in 15 pregnant women (0.56% of sample size with CI 95% 0.28, 0.84). Our results showed lack of correlation between syphilis seropositivity and age, ethnic origin or pregnancy trimester of the mother. The only factor found to influence syphilis seropositivity was the mother's place of residence – rural inhabitants had significantly higher risk for syphilis infection when compared to urban inhabitants with seropositive proportion of 1.08% versus 0.36%, respectively.


Abstract: The recent outbreak of Ebola viral disease in West Africa was the largest Ebola epidemic ever recorded in human history. Thousands of people lost their life or families, three entire countries – Guinea, Sierra Leone and Liberia – were totally devastated and their economics and health systems will need decades to restore to normal function. The current review tries to summarize the novel elements in the West Africa Ebola outbreak and to identify the reasons for the sudden virus attack in a totally unexpected region. Non-medical and non-epidemiological reasons are the most cited – for the first time in our history a viral
outbreak is directly linked with the global climate change. Among the other arguments in the origin of the West Africa Ebola outbreak we should outline the economic situation in the affected countries, the late international response and the absence of correspondence between the local communities and the health authorities. Now, when recapitulation of the last two years is going, we need to provide the correct answers of why and how this outbreak happened. It’s time to give a new meaning of human nature-deteriorating activities threatening in many cases our own health and well-being.


Abstract: Aim: To assess the gender differences among suspected pulmonary tuberculosis patients undergoing diagnostic sputum smear microscopy.

Materials and methods: The study covered the patients with TBC diagnosed and treated in the region of Varna during 2012. Data have been gathered by the Laboratory of Microbiology at the Specialized Hospital of Pneumologic and Phthisiatric Diseases of Varna Ltd.

Results: Gender and age are both traditionally known variables in terms of incidence and prevalence of pulmonary tuberculosis. The patients were classified into various groups according to gender and age. In 2012 the number of the men suffering from tuberculosis is repeatedly greater than those concerning the women (42 men to 29 women from 2012). This is probably due to the numerous risk factors among men, but biological mechanisms may actually account for a significant part of this difference between male and female susceptibility to TB.

Tsankova G., Kaludova V., Todorova T., Ermenlieva N., Georgieva E.P.: Clinical case report for nontuberculous tuberculosis caused by Mycobacterium gordonae, European Journal of Inflammation; 2016, ISSN: 1721727X, in press, pp.4 (accepted, Editor-in-chief: Pio Conti, Italy);(I.F. 0.532)

Abstract: Background: Mycobacterium gordonae is a slow growing pathogen of mycobacteria. It can be found in tap water, soil and laboratory environment. It is implicated in different infections in both immunosuppressed and immunocompetent individuals.

Case Description: Here, we describe a case of a 46-old immunocompetent patient with long-term cough and poor expectoration. A computed tomography of the chest demonstrated punctiform lesions and fibrosis formation in the upper right lobe. It did not show any infiltrate in lung parenchyma. Definitive diagnosis for Mycobacterium gordonae pulmonary disease was made by genetic method.

Conclusion: Mycobacterium gordonae is reported to cause clinically significant nontuberculosis infection in both immunocompetent and immunosuppressed individuals.
With traditional laboratory methods *Mycobacterium gordonae* is difficult to diagnose, but the latest molecular techniques allow successful identification of slow growing mycobacteria.

**Tsankova G. S., Kasimova Z., Todorova T. T., Avdzhiyska M., Tsankova D.**

*Outbreak of Zika virus disease and its complications, Journal of IMAB. 2016; 22 (2): 1136-1138. (SJIF 2014 5.548); (I.F. 0.500)*

Abstract: Zika virus (ZIKV) is an arbovirus from Flaviviridae family, genus Flavivirus. Like most of the viruses which belong to the Flavivirus genus, it replicates in and is transmitted by mosquitoes. Unlike other arbovirus infections including dengue and chikungunya, Zika virus causes a relatively mild disease. The most common symptoms of ZIKV are mild fever, arthralgia, myalgia, headache, asthenia, abdominal pain, oedema, lymphadenopathy, retro-orbital pain, conjunctivitis, and cutaneous maculopapular rash, which last for several days to a week. Although 80% of the cases with ZIKV are asymptomatic, severe complications such as microcephalia and GBS may be observed. This explains why ZIKV is more dangerous that it was thought to be and why it rapidly evolves in unexpected challenge for the international and national public health authorities.

**Tsankova G., Ivanova E., Todorova T., Konstantinov R., Ermenlieva N., Draganova Y.:**


Abstract: Background: Pertussis (whooping cough) is a severe acute infection, caused by the bacterium Bordetella pertussis. It is a widely spread communicable disease, affecting predominantly children. Although highly preventable because of the existing vaccination, pertussis cases still exist and fatalities are possible. Purpose: With the current work we aimed to analyze the pertussis incidence in Bulgaria and in its Northeastern part for 5-year period (2009-2014) and to assess the impact of obligatory immunization among children. Results: From 2009 to 2014 a stable trend of pertussis morbidity (incidence of 0.5-3.3/100000) was observed in Bulgaria. The same tendency was reported for Varna Region in particular. The incidence rate was highest in age group under 1 year, following by the group of 1-9 year-olds. Conclusion: In Bulgaria and in its Northeast region in particular, only sporadic cases of pertussis are registered each year mainly in children with missing immunization.

Abstract: According to the World Health Organization, clinical cases with hepatitis A account for 1,5 million each year and its spread strongly correlates with socioeconomic and cultural development of each country. Bulgaria is a region with intermediate endemicity of hepatitis A viral infection with average incidence of 27 – 80 cases per 100 000 population.

Aim The objective of the current study is to analyze the epidemiological data on hepatitis A in five of the largest provinces of Bulgaria, located in its eastern part – Varna, Shumen, Dobrich, Burgas and Yambol.

Methods: In the current study, we investigate all reported cases of hepatitis A in the easternmost provinces of Bulgaria for 7 year-period (2008-2014). The information was received from the Regional Health Inspections in Varna, Dobrich, Shumen (Northeast Bulgaria) and in Burgas and Yambol (Southeast Bulgaria).

Results: During the period of the study, a total of 2879 newly infected individuals was registered, but this number varied widely – from 190 cases in 2014 to 923 in 2012. Southeastern provinces (Burgas and Yambol) showed higher average incidence of HAV compared with the provinces on the North (Varna, Dobrich and Shumen) – 51,41%000 versus 16,04%000 respectively (p < 0,0001). In all studied provinces age group 5-9 years showed the highest incidence rate and males and females were equally affected.

Conclusion: Hepatitis A is an important social disease and it is necessary to raise the health knowledge of children and adolescent about hepatitis A and to improve the essential hygienic habits (washing hands).

II. АВТОРЕФЕРАТ НА ДИСЕРТАЦИОНЕН ТРУД:


Дисертационият труд е посветен на актуален и важен здравен социално-значим проблем – туберкулозната инфекция. Литературният обзор дава пълна съвременна информация за туберкулозната заболяваемост у нас, като особено внимание е отделено на рисковите фактори, етиологичните причинители, описани са структурата и антигените на туберкулозния бацил, механизма на инфекцията, роля на имунната система, микробиологичната диагноза с устойчивост на туберкулозните щамове към антимикробната химотерапия, роля на противотуберкулозната ваксина, туберкулиновите пробы и здравната политика свързана с туберкулозата у нас. Целта на дисертацията е да се направи пространство-епидемиологично проучване на
Заболеваемостта от туберкулоза и да се проследи ефекта от проведената имунопрофилактика. За постигане на целта са поставени 7 основни задачи за да се осъществи епидемиологично-популационно проучване с ретроспективен характер на заболеваемостта от туберкулоза и да се проследи ефекта на проведената BCG ваксинация с оглед предотвратяване на разпространението на туберкулозата. Използваните методи са епидемиологичен, документален, социологически. Разработена е анкетна карта. Резултати: Представен е анализ на изследването на туберкулозната заболеваемост в страната и Варненския регион за периода 2001-2011 година. Проучени са имунизационната структура и вакциналното покритие на подлежащите на имунизация и реимунизация деца в региона. За установяване нивото на колективния противотуберкулозен имунитет и оценка на извършената BCG имунизация, е изследвана туберкулиновата чувствителност на лица, на възраст 7, 11, 17 години, подлежащи на планова проверка. Потърсена е връзка между заболеваемостта от туберкулоза и ефекта от приложената BCG ваксина. Направена е характеристика на социално-битовите условията при учащите се в град Варна. Обобщени са данни от анкетно проучване на здравните знания и култура на ученци и студенти от град Варна относно туберкулозата и нейната профилактика.

ОТПЕЧАТАНИ ПЪЛНОТЕКСТОВИ ПУБЛИКАЦИИ В НАУЧНИ СПИСАНИЯ С ISSN И СБОРНИЦИ С ISBN И С ИМПАКТ ФАКТОР:

Научни публикации в международни списания с импакт фактор, свързани с докторската дисертация:


Abstract: According to the information from the World Health Organization (WHO) about 1/3 of the world population i.e.2 milliard people are infected with Mycobacterium tuberculosis and they are at risk that their condition may deteriorate. More than 8 million people are annually infected and approximately 2 million die of tuberculosis. Bulgaria is a country with an average level of incidence – between 12 to 80 per 100 000. In Varna region the number of the people infected with tuberculosis in 2008 was 143 - 37 patients more than those registered in 2007.

Aim: To make an analysis of some tubercular infection indicators in Varna region in 2008.

Materials and methods: A research was carried out in the Pneumo-phthisiatric Clinic in Varna, concerning the patients undergoing treatment there in 2008. Apart from that information was collected from the Center for Disease Control at the Regional Sanitary Inspection in Varna. Results: The number of people infected with tuberculosis in 2008 was 143 – 37 more compared to 2007.The cases of pulmonary consumption had increased by
There were patients infected with tuberculosis in Varna Municipality, Provadia, Dolni Chiflik, Aksakovo, Vulchi dol, etc. The highest number of patients suffering from tuberculosis were among the people over 65 years of age and the unemployed between 30 and 35 years of age especially the ones with low standard of life. In the group of the infected people there were 17 children and the youngest patient was 9 months old. Susceptible to the disease were people with weak immune system, low social status, alcoholics, smokers and unemployed. Conclusion: Reducing the incidence of tuberculosis in Varna region can be achieved by: control over the range and quality of the specific immunoprophylaxis with BCG vaccine, raising the public health awareness of tuberculosis, enhancing and monitoring the activity of the non-governmental organizations (NGOs) that work on the problem of tuberculosis in the region of Varna.

Tsankova G., Yustiniyanova B. Medical students’ knowledge of the characteristic features and prevention of tuberculosis, *Journal of IMAB*, 2010; 16 (3): 48-50. (SJIF 2014 5.548); I.F. 0.500

Abstract: Medical students’ knowledge of the main characteristic features of tuberculosis and the prevention of the disease was studied by means of an anonymous inquiry examination of 84 students of the Medical College of Varna during the 2009/2010 academic year. They presented with good knowledge of the main characteristics of tuberculosis such as predisposing factors, risk groups, source and mechanism of transmission of the infection. They were better grounded in the common preventive measures for avoiding the tuberculosis infection rather than in those towards the contact persons. Most respondents indicated the role of Mantoux test (61%) and microbiological examination of sputum.


Abstract: Aim: To study secondary school students’ health awareness of tuberculosis characteristics and its prophylaxis.

Materials and methods: a confidential 32-item questionnaire was filled in by 190 students at the age of 15-18, 69 (36%) of who - boys and 121 (64%) girls in IX, X, XI classes, from 3 different secondary schools in Varna. The questionnaire consists of 32 questions, classified in 4 sections. SPSS ver. 19.0 software package was used for statistical data processing.

Results: Studies show that the interviewed students are aware of the basic characteristics of tuberculosis. The research displays significant differences between girls’ answers and boys’ answers. Boys are better informed about the causes, the processes of disease transmission and the basic prophylactic measures for prevention of tuberculosis whereas girls are more knowledgeable about the main symptoms of the disease.

Abstract: Aim: To establish the degree of patient satisfaction as factors of quality diagnostic laboratory activity.

Materials and methods: Patients’ satisfaction with laboratory service was studied by means of an anonymous inquiry of 150 patients from Varna during the February - April 2013.

Results and Discussion: The maximum patient satisfaction of laboratory studies indicates a high level of the diagnostic laboratories. The quality of the medical service and professionalism of the staff is the main reason for the patients' preferences. These estimates have an increasing importance for the future of diagnostic laboratories in a developing market of an economy and health system based on the patient choice.

Conclusion: Quality of the medical service and professionalism of the staff is the main motive for the preferences of patients, followed by good attitude and personal attention. The overall degree of patients’ satisfaction with the laboratory services was high.


Abstract: Mammalian transmissible spongiform encephalopathies are uncommon and irreversible diseases caused by prions. Prions lack nucleic acid and can self propagate by converting normal cell protein to isomeric prion form. In the pathogenesis of these diseases a long variable incubation period occurs, followed by progressive appearance of severe clinical symptoms and death. A major knowledge in the field of prions comes from studies on a functionally unrelated protein of yeast Saccharomyces cerevisiae – [URE3], which in normal state (Ure2p) possesses a variety of regulatory and enzymatic functions. Ure2p is a cytoplasmic homodimeric protein with structural homology to glutathione S-transferases and crucial role in nitrogen metabolism, oxidant protection and heavy metal resistance in yeast. In this work, we discuss the role of Ure2p to provide valuable information about protein infectivity, prion structure and functions.


Abstract: Hepatitis B (HBV) and hepatitis C viruses (HCV) are highly contagious and important occupational hazard for health workers. Dental practice often includes direct
contact with patients’ body fluids and exposure at high degree to potentially HBV and HCV infected materials and instruments.

Purpose: The purpose of this study is to investigate the level of knowledge about hepatitis B and C infections and the attitude towards hepatitis B virus vaccination among Dental Medicine students.

Materials and Methods: A cross-sectional survey was conducted among 96 students of Faculty of Dental Medicine, Medical University of Varna in March, 2015. The questionnaire contained 22 questions divided into 4 major sections. SPSS ver.16 software package was used for statistical data processing.

Results: Most of the participants (82.3 %) considered hepatitis B and C as serious diseases and had positive attitude towards HBV vaccination (75 %). Almost 90 % considered that dental practice could enhance the risk of infection with HBV and HCV. Unfortunately, only 57.4 % of students knew their vaccination status and 13.9 % had checked HBV antibodies’ level.

Conclusions: The majority of respondents demonstrated a high level of knowledge of HBV and HCV infections. All participants were aware about the risk of potential HBV and HCV transmission in their future practice and anticipated applying preventive measures at work. However, deeper information about HBV vaccination and checking anti HBs titer is still needed among dental students, as well continuous target education in the field.


Abstract: Mycobacterium peregrinum is a member of the group of rapidly growing non-tuberculous mycobacteria. It can be found in high frequency in natural and laboratory environments and is considered to be uncommon rare pathogen for both immunocompetent and immunosuppressed individuals. Currently, pulmonary infections caused by Mycobacterium peregrinum are unusual and diagnosed only in limited number of cases. Here, we present a clinical case of elderly man (72 years) with 1 month history of non-specific respiratory symptomatic. The patient was without underlying immunosuppressive condition or lung disease. Chest X-ray demonstrated persistent pleural effusion, opacities and cavitations in the right lobe. One of the sputum cultures grew a rapidly growing mycobacterium and the isolated strain was found to be Mycobacterium peregrinum as identified by molecular genetic detection (PCR and DNA strip technology). To our knowledge, this is the third case in the world to report Mycobacterium peregrinum as a possible causative agent of pulmonary infection.


Abstract: Bulgaria is a country of moderate endemicity for hepatitis B infection with 3-7% of the general population chronically infected with the virus. Since 90s of 20th century
an obligatory vaccination have been implemented for all healthy newborns, but hepatitis B infection is still an important public health problem that needs to be addressed especially in some particular age and socio-demographic groups. No recent published data are available about HBV epidemiology in Bulgaria and in its Eastern part particularly. In the current study, we analyze the epidemiological data on HBV incidence in five regions in Eastern Bulgaria (Burgas, Dobrich, Shumen, Varna and Yambol) and try to determine the possible risk, which HBV infection poses to public health in these regions. The number of cases of acute viral hepatitis B in all considered regions has been durably decreasing for the last seven years, reaching a minimal incidence rate of 3.09‰ in 2014. Young individuals in their 20s years (the last generation in Bulgaria without mandatory vaccination) have been found to be most affected by hepatitis B infection.


Abstract: Extended-spectrum beta-lactamase (ESBLs) producing bacteria are microorganisms which have the ability to hydrolyze β-lactame ring of a large part of the antibiotics, commonly used to treat bacterial infections including urinary tract infections.

Purpose: The aim of this study is present the epidemiology of childhood urinary tract infections caused by ESBL-producing strains in Varna, Bulgaria. Material/methods:

A total of 3895 urine samples of children patients (aged 0 to 18 years) were examined during the period 2010-2012 for presence of ESBL-producing bacteria. Results:

Six percent of the tested urinary samples were positive for ESBL production. All of the isolates were resistant to ampicillin, piperacillin, cephalothin, cefprozil, cefuroxime, ceftriaxone, ceftazidime, levofloxacin, cefaclor, but were were sensitive to meropenem and imipenem. Conclusions:

Cephalosporins and penicillins are the most used antibiotics in Bulgaria, but they should be very precisely prescribed in medical practice, because otherwise preconditions for maintaining high share of ESBLs are created.


Abstract: Methicillin-resistant Staphylococcus aureus (MRSA) are bacteria, responsible for severe and hard-to-manage infections in human. They are resistant to beta-lactam antibiotics – penicillins (methicillin, dicloxacillin, nafcillin, and oxacillin), cephalosporins and carbapenems, but can also be resistant to the new-generation MRSA-active cephalosporins (such as ceftaroline) or other groups of antibiotics, including aminoglycosides, macrolides, clindamycin, amphenicols, quinolones and tetracyclines.
MRSA bacteria are pandemic and are often isolated in medical practice and nosocomial infections.
The MRSA detection is a challenge to any clinical microbiology laboratory and demands implementation of strict protocols for active screening. While more expensive molecular techniques have the potential of offering highly sensitive and rapid results, the cultural methods require longer time but can achieve a comparable sensitivity for lower price.

Abstract: Epstein-Barr (EBV) is a widespread virus which can be detected in more than 90% of world population. Primary EBV infection during adolescence and adulthood results in infectious mononucleosis, while in children it is usually asymptomatic. EBV is responsible for different malignant forms of B-cell or epithelial cancers, such as Hodgkin's and non-Hodgkin's lymphoma, Burkitt's lymphoma, post-transplant lymphoproliferative disorders, nasopharyngeal carcinoma, hairy leukoplakia and HIV-associated lymphomas. Evidence exists that an infection with EBV is also linked with a higher risk of hepatocellular and gastric cancers, as well as autoimmune diseases.

EBV shows two alternative life cycles – latent and lytic. After the primary infection, the virus remains in the B lymphocytes in latency, while the lytic infection takes place predominantly in the epithelial cells and can last for months with constant virus release in saliva and nasopharyngeal secretion. Unlike other herpes viruses, the development of oncological diseases is linked with the latent cycle, as a result of the immune response failure to control latently infected cells.

With the present work we try to concisely review the current knowledge about mechanisms of EBV pathogenesis in humans and to summarize recent findings in the field.

Abstract: Listeria monocytogenes may cross and proliferate in the placenta and cause severe infections during pregnancy. In pregnant women, listeriosis usually occurs during the third trimester, when cell-mediated immunity is reduced. A common results are abortion, stillbirth, intrauterine and/or neonatal infections. Two forms of neonatal infection exist: early-onset sepsis (acquired in utero) and late-onset meningitis (acquired through vaginal transmission).
Clinical case: The patient was a newborn male, delivered by urgent cesarean section after chorioamnionitis on 02 June 2013 in a small private hospital in Varna. Six hours later he was transferred to our hospital with hypotonia and weak, not rhythmic breathing with lots of crackles. After the admittance, the baby became high oxygen doze dependent with signs of pulmonary insufficiency. The blood tests have shown decreased level of lung perfusion and ventilation, significant hypoxemia and hypercarbia. After 48 hours, the baby was extubated, passed the period after ventilation without complications and started to eat independently. Listeria monocytogenes was isolated from ear secretion, while blood and CSF cultures were negative. The baby was discharged on the 20-th day of his birth with weight of 2000 g and normal lung and heart function. To date, he has normal neurological status, cognitive function and vital signs.

Резюме: Една от най-важните мерки за ограничаване разпространението на туберкулезната инфекция е специфичната имуноопрофилактика с BCG ваксина. За измерване на забавената свързаност чувствителност, като израз на постваксиналния клетъчен – медианен имунитет в детската възраст, се използва кожно - туберкулиновия тест (пробата на Манту). Включването на двата компонента - BCG ваксина и ППД – туберкулин в Националния имунизационен календар, се явяват основно средство в националната стратегия за борба с туберкулезата.

Цел: да прoureчим туберкулиновата чувствителност при деца (на 7 месяца, 7, 11 и 17 години), подлежащи на планова проверка, с цел установяване нивото на колективния противотуберкулозен имунитет и епидемиална БЦЖ реимунизация.

Материали и методи: проучени са 6 672 деца на възраст от 7 месяца до 17 години във Варненска област (БО) за периода 2007-2012г., подлежащи на предреваксинално изследване с проба на Манту. За целта е използван български ППД туберкулин 5 МЕ, приложен вътрекожно. Пробите са отчетени на 72 ч от специалист пулмолог- пневмохирург, съгласно приетите критерии за страната. Използвани са епидемиологични, математико – статистически, графични методи.

Резултати и обсъждане: Анализът на данни показва, че най-ниска стойност на средния диаметър на кожните реакции, се наблюдава в малките възрастови групи до 1 година и на 7 години. Процентът на туберкулини – отрицателните лица, т.е на незащитените, намалява с увеличаване на възрастта на изследваните лица.

Изводи:
1. Установихме едно добро ниво на постваксиналния противотуберкулозен имунитет сред проучените деца във Варненска област.
2. Туберкулиновият кожен тест на Манту е икономически изгоден и лесно приложим в практиката метод. Тествът има голяма информативна стойност при изследване на деца за установяване на поствакцинална реактивност.
3. Необходимо е по-нататъшно задълбочено проучване на постваксиналния противотуберкулозен имунитет сред юношеската възраст във Варненска област и ролята му като регулиращ фактор за ограничаване на епидемичния процес при туберкулезата.

Костадинова Цв., Иванова Л., Цанкова Г., Жечев П. Разпространение на сифилис сред лица от уязвими групи и профилактично изследвани по повод диагностично уточняване в две лаборатории в град Вarna, Варненски медицински форум, 2014; 3(4): 53-55.
Резюме: Сексуально – передаваните инфекции /СПИ/ са сериозен медицински и социален проблем. Това се дължи на голямото им разпространение в световен мащаб, доказаната им роля за развитието на усложнение при мъжете и жените, включително и на рак, големите разходи за диагностика и лечение. Във връзка със СПИ са обособени т.н. уязвими групи, за които се приема, че са с по-висок риск. Сифилисът е типична сексуално-предавана инфекция, известна още от древността. Основно се разпространява при сексуален контакт, също и вертикално - от майка на дете и по кръвен път. Целта на нашето проучване е установяване честотата на разпространение на сифилис във Варненски регион, като се анализират изследванияте пробы на лица от уязвимите групи, бременни жени и изследвания профилактично и с диагностична насоченост в две големи лаборатории в гр. Варна. Обхванати са 6749 лица, разпределени в две възрастови групи. Случайте са дефинирани чрез доказване на антитела в серум от болен чрез използване на: кардиолипионди антигенен тестове - Venereal Disease Research Laboratory (VDRL) и специфични трепонемни тестове - Enzyme-Linked immunosorbent assay (ELISA) и T.pallidum haemagglutination assay (TPHA). След анализиране на данните могат да се направят следните изводи: 1. Очаквано по-висока е серопозитивността сред лицата от уязвимите групи. 2. В нашето проучване не се установяват съществени разлики по пол по отношение на сифилис. 3. Броят на положителните пробы е по-голям при лицата от по-младата възрастова група до 25г.

Цанкова Г., Костадинова Цв., Лодозова Н., Георгиева Е., Тодорова Т. Оценка на имунния статус на жени в детердона възраст срещу вируса на рубеола във Варненска област, Варненски медицински форум, 2014; 3(4): 317-321.

Резюме: Рубеолата е остро инфекционно заболяване, което се причинява от Rubella virus. Характеризира се с леко протичане при децата и широко епидемично разпространение. Въпреки, че рубеолата е позната отдавна, интересът към нея и социалното й значение нарастват след 1941 г., когато отфталомологът Норман Макалистър Грег установява, че вирусът може да предизвиква различни увреждания на плода, известни като конгенитален рубеолен синдром (KPS). След въвеждане на противорубеолната ваксина броят на децата с конгенитален рубеолен синдром рязко намалява, но докато има страни с ендемично разпространение, той ще продължава да бъде проблем за общественото здравеопазване.

Цел: Обобщаване и анализиране на данни от проведено серологично проучване за наличие на защитни антитела към рубеолния вирус при жени в детердона възраст в град Варна и областта.

Материал и методи: Проучването обхваща 710 жени на възраст от 18 до 40 години. Серологичното изследване е извършено с китове VIR-ELISA anti Rubella IgG за количествено определяне на рубеолни антитела от клас IgG.

Резултати: От всичките 710 изследвани лица 41 (5,8%) са серонегативни към рубеолния вирус. Възрастовото разпределение на серонегативните пробы показва, че
най-висок е относителният дял на незащитените (6,63%) сред жените на възраст от 21-30 години.

Изводи:
Разпространението на рубеолния вирус в някои страни по света, увеличената миграция на хора, наличието на незащитена популация от жени в детеродна възраст, тежките увреждания на плода, налагат определеното на титъра на специфичните IgG антителата да се въведе като задължително изследване още при първото посещение на бременната в женската консултация.

Лодозова, Н., Близнакова Д., **Цанкова Г.** Антибиотична резистентност на ESBL- щамове, причиняващи уронинфекции при амбулаторни пациенти в детска възраст и тяхното разпространение в община Варна, *Варненски медицински форум*, 2014; 3(4): 179-183.


Резюме: Ротавирусните инфекции са най-честата причина за тежък остър гастроентерит при кърмачета и деца в ранна детска възраст, като засягат 95% от неваксинираните деца на възраст до 5 години. В страните от Европейския съюз всяка година от ротавирусни инфекции боледуват почти 3 600 000 деца. В България по данни на НЦЗПБ, за първите 7 месеца на 2015 г. са регистрирани 913 ротавирусни гастроентерити. Основният метод за контрол на ротавирусните инфекции е въвеждане на задължителни или препоръчителни ваксинални програми при деца до 6 месечна възраст. След проведени широкомашабни проучвания през 2006 г. срещу ротавирусни
гастроентерит за приложение са одобрени две живи перорални ваксини: Rotarix и RotaTeq, които се различават по антигенна структура и имунизационна схема. Масовата имунизация с тях е въведена в 49 страни, сред които САЩ, Австралия, Великобритания, Белгия, Норвегия.

У нас от януари 2010 г. С Наредба №15 за имунизациите в Република България, прилагането на ротавирусните ваксини е включено в списъка на препоръчителните имунизации. Важен елемент от борбата с ротавирусните инфекции е разработване и внедряване на Национална програма за контрол и лечение на ротавирусни гастроентерити за периода 2015-2019 г.


Резюме: Използването в древната медицинска практика за лечение на рани, пептични язви, бактериални гастроентерити и офтоматологични инфекции, днес медът отново е въведен като средство в модерната медицина. Той има и свойства свързани с лечуването на периодонтит и гингивит. Антимикробното действие на меда от манука се счита, че се дължи и на осмотичния ефект на високото му захарно съдържание. Медът може да разруши биофилма на P. gingivalis.

Някои изследвания показат, че броят на P. gingivalis, L. acidophilus и S. mutans значително намалява след консумация на мед. Освен това медът не само спира разтежка на бактериите от зъбната плака, но също така намалява количеството на произведената киселина, което пречи на бактериите да произвеждат дектстан. Друго проучване показва, че оралното приложение на прополиса намалява загубата на кост от алвеоларния израстък предизвикана от периодонтит при плъхове.

В заключение може да се каже, че медът или неговите компоненти добавени към продуктите за поддържане на оралното здраве могат да имат ефект в превенцията и лечението на периодонтита.

Тодорова Т., Цанкова Г., Георгиева Е., Лодозова Н., Епидемиология на заболяванията от варикела в област Варна през първата половина на 2015, Варненски медицински форум, 2015; 4(3): 423-426.

Резюме: Варикелата (лешенка) е широко разпространено инфекциозно заболяване, причинено от Varicella Zoster Virus (VZV). Вирусът атакува предимно малки деца (на възраст 1-10 години), но всички възрастови групи, независимо от пол или националност са уязвими. В държави, с въведена задължителна имунизационна програма, епидемиологията на варикелата се променя значително, като се редуцират както заболяемостта, така и възможните усложнения, хоспитализации и смъртни случаи при деца и в общата популяция. За съжаление, в България, както в повечето Европейски страни, задължителна имунизация срещу VZV не съществува. Поради огромната контагиозност, дължаща се на високо основно репродуктивно число от 12-
18, близо 100% от българската популяция се заразява с варицела в даден момент от живота си. Това често довежда до сериозни усложнения и инвалидизация.

Целта на настоящото изследване е да проучи настоящия епидемиологичен взрив на варицела в страната, и в частност във Варна. Броят на заболеванията, отчетени през януари е 315, броят им значително започва да намалява през май и достига минимум през юни. Епидемията обхваща повече от 1431 лица в Област Варна, като следва бимodalно разпределение с пикова през януари и април.
Област Варна е една от най-големите области в страната с висока гъстота на населението, по-голяма част, от което е урбанизирано. Следователно, рискът от заразни заболевания е много висок. Това е причината, областта да бъде една от най-засегнатите от настоящата варицелна епидемия.

Научни публикации, свързани с дисертационния труд, които са публикувани в рецензирани сборници на научни звена или в сборници от проведени научни форуми:

Цанкова Г. Сравнителен анализ на някои показатели на туберкулозната заболеваемост във Варненски регион през 2007 и 2008 г., Научни трудове на Русенския университет, 2009; том 48, серия 8, 1, Здравна промоция и превенция, с. 62-66.

Abstract: Comparative analysis of some index of tubercular morbidity in Varna region in 2007-2008 Tuberculosis is one of the wide spread infections. One third of the world's population is infected with M. tuberculosis. Bulgaria is a country with intermediate incidence of tuberculosis – 40*100 000 population. It is implemented a research of the tubercular morbidity in Varna region in 2007- 2008 by most means of assessment of the distribution by sex, age, form of tuberculosis. The received results present the number of new patients is 143 in 2008 wich is with 37 more in comparison with 2007. The cases of pulmonary tuberculosis have increased with 36 this year.


Резюме: Цел: Да се направи сравнителен анализ на някои показатели на туберкулозната заболеваемост във Варненски регион през периода 2001- 2008 г. Материал и методи: Проучени бяха заболевелите и лекувани от туберкулоза през 2001 - 2008 година във Варненски регион. Данните са събрани от Дирекция надзор на заразните болести при РИОКОЗ- гр.Варна, Областен диспансеер за пневмофтизиатрични заболявания със стационар ЕООД гр. Варна. Болните са
Abstract: Urinary tract infections are among the most common infections in ambulatory and hospitalized patients. It is estimated that approximately 150 million people suffer from urinary tract infections in the world annually.

Primary causes of urinary tract infections are gram-negative microorganisms of the family Enterobacteriaceae - Escherichia coli, Klebsiella spp., Proteus mirabilis and others.

The main antibiotic approach to treating urinary tract infections are β-lactam antibiotics - penicillins, III generation cephalosporins are widely applied fluoroquinolones.

Extended spectrum-β-lactamase (ESBL)-producing organisms have been discovered in the 80s in Europe. They have the ability to hydrolyze the β-lactam ring of the majority of antibiotics in this group, commonly used to treat bacterial infections, including urinary tract infections. The main ESBL-strains are Klebsiella spp. (mainly Klebsiella pneumonia) and of E. coli. Their share is growing every year and they become serious health problem worldwide.

Objectives:

The aim of the study is to characterize ESBL-enzymes produced by the family Enterobacteriaceae, by presenting their distribution in Europe and in Bulgaria, their epidemiology and their resistance to certain groups of β-lactam antibiotics.

Materials and methods: The methods for detection of ESBLs can be broadly divided into two groups: 1. phenotypic methods, that use non-molecular techniques, which detect the ability of the ESBL enzymes to hydrolyse different groups β-lactam antibiotics (mainly...
cephalosporins); 2. genotypic methods, which use molecular techniques to detect the gene responsible for the production of the ESBL.

Results and discussion: Most studies on the activity of ESBL-producers indicate, that the major share of antibiotics, that have the ability to hydrolyze these bacteria, are cephalosporins (mostly II-nd and III-rd generation) - ceftazidime, cefotaxime and ceftriaxone; penicillins; monobactams (aztreonam), etc. So far, carbapenems (imipenem and meropenem) carbacephems and cephamycins (type cephalosporins) - cefoxitin and cefotetan remain effective in the fight against extended-spectrum β-lactamases.

Conclusions and Recommendations: Studies submitted by different authors, both in Europe and in other continents, indicate widespread dissemination of ESBL-producers, causing urinary tract infection. They hydrolyze most of the groups and subgroups of β-lactam antibiotics. Carbapenems and carbacephems are the only effective antibiotics in the majority of studies. To contain extremely high share of ESBL-resistant strains is necessary to adjust very thorough use of penicillins and cephalosporins in medical practice, medical laboratories to specialize in the detection of extended-spectrum beta-lactamases and to reduce to a minimum the possibility of randomly self by patients with urinary tract infections.

Abstract: Glycated hemoglobin is a more accurate indicator of the quality assessment of the treatment and compensation of diabetes. Increasing frequency of this type of diseases in the past decades in the world as well as in our country, it poses serious challenges to search for new diagnostic methods, an effective control and treatment of disorders in the early stage to avoid risks of hypoglycemia, weight gain and other side effects. Glucose reacts non-enzymatically with the amino terminal of the valine residue of the beta chain. Initially it occurs labile HbA1c (aldimino-flowing form), which as a result of transformation occurs slowly became stable HbA1c (keto amine form). As the concentration of labile HbA1c has fluctuations that correspond to the instantaneous concentration of glucose in the blood, while the stable HbA1c reflects the average glucose concentration over the last 40 - 90 days, and is therefore a valuable indicator of the effectiveness of treatment in diabetic patients.

Abstract: The medical personnel interaction rise many significant issues within medical practice which should include not only professional competence but also provision of
effective professional communication, observation and interaction. A good professional communication in the medical practice is accomplished by strictly following the rules of medical ethics. Purpose – research and analyses of the opinion of medical specialists in St. Marina University Hospital Varna in order to develop a manual for quality improvement of the laboratory service and the interaction of clinical and paraclinical units in hospital environment. Sources and methods: documentary, sociological, expert evaluation method and anonymous inquiry research. The work of the medical team in the hospital is organized based on two level service which means that patient cares are provided by two units – the nurse and the doctor and subsequent interaction with the laboratory personnel. Results: According to the interviewed experts, medical technicians possess the qualities typical of professional conduct that match our requirements and expectations. Respondents answered / 100% / to which is crucial in the interaction within the team, which is the result of good work and trust built mzhdu health professionals.
Abstract: Syphilis is a sexually transmitted disease, caused by the spirochaete Treponema pallidum. During the course of pregnancy it may lead to serious fetal disorders and to intrauterine death. Aim: Analysis of the frequency of syphilis among pregnant women in Varna, Bulgaria. Material and methods: The study comprises 2702 pregnant women. The syphilis screening was performed on blood samples by ELISA (Enzyme Linked Immunosorbent Assay), VDRL (Veneral Disease Research Laboratory) TPHA (T. Pallidum pallidum haemagglutination assay). Results: The specific treponemal antibody was detected in 27 pregnant women by using ELISA, in 15 pregnant women by VDRL and in 16 women by TPHA. Our results showed no significant relation between the age of the patient, pregnancy trimester and the susceptibility to the disease. In contrast, the ratio positive/negative samples was three-fold higher in the group of women from rural regions compared to these of urban origin. Conclusions: Serological syphilis screening with different methods is necessary for better protection and prevention of possible congenital transmission and habitual abortions. The insufficient number of physicians in rural regions and therefore the limited accessibility to health care is pertinent for higher syphilis prevalence in less urbanized regions.
Abstract: Background: Human cytomegalovirus (CMV) is an ubiquitous large enveloped DNA β-herpesvirus that, like other members of the herpesvirus family, establishes lifelong latency following primary infection. The virus is the most frequent cause of congenital infections, which can cause permanent disabilities such as hearing loss, vision loss and mental retardation. Aims: To assess the role of CMV in congenital and early postnatal infections in Northeastern Bulgaria. Study population: 304 children (newborns to 3 months of age) with mental or physical retardation, neurological symptoms, hepatitis or other disabilities were studied by single serum samples. They are divided in two groups: Group A – 129 newborns and Group B - 175 children 1 – 3 months of age. Methods: Commercial ELISA test kits for detection of specific anti CMV IgM and IgG (EUROIMMUN -Germany, VIRCELL – Spane, Dia Pro - Italy, Adaltis - Italy) was performed. Results: A total of 304 children investigated, 57 (18.75 %) were anti CMV IgM positive, 207 (68.1%) were only anti CMV IgG positive. In Group A - 11 (8.5 %) were anti CMV IgM positive. In Group B - 46 (26.2 %) were anti CMV IgM positive indicating acute infection. IgG positive results only were detected in 80.6% of Group A and 58.9% in Group B. Conclusion: CMV is etiological agent in 8.5% of the newborns disabilities and in 26.2% of the early postnatal disorders.


Abstract: Bulgaria is a country of moderate endemicity for hepatitis B infection with 3-7% of the general population chronically infected with the virus. Since 90s of 20th century an obligatory vaccination have been implemented for all healthy newborns, but hepatitis B infection is still an important public health problem that needs to be addressed especially in some particular age and socio-demographic groups. No recent published data are avaible about HBV epidemiology in Bulgaria and in its Eastern part particularly. In the current study, we analyze the epidemiological data on HBV incidence in five regions in Eastern Bulgaria (Burgas, Dobrich, Shumen, Varna and Yambol) and try to determine the possible risk, which HBV infection poses to public health in these regions. The number of cases of acute viral hepatitis B in all considered regions has been durably decreasing for the last seven years, reaching a minimal incidence rate of 3,09‰ in 2014. Young individuals in their 20s years (the last generation in Bulgaria without mandatory vaccination) have been found to be most affected by hepatitis B infection.

Abstract: The objective of our study is to assess the level of depression among patients with rheumatoid arthritis and ankylosing spondylitis in Bulgaria. We also try to find the degree of correlation between depression levels and the activity and duration of the disease.

Methods: A cross-sectional study among 140 people living with rheumatoid arthritis and ankylosing spondylitis was conducted from May 2015 to July 2015. The following instruments were used: Beck Depression Inventory (BDI) and Routine Assessment of Patient Index Data3 (RAPID3). The relationship between variables was assessed using chi-square test with significance level of p < 0.05. Results: Almost 66% of all studied individuals living with rheumatoid arthritis and ankylosing spondylitis experienced some level of depression. This is directly related to the activity and duration of the disease. Conclusions: Depression among patients with rheumatoid arthritis and ankylosing spondylitis is a major health problem. Our study shows the need for assessment of depression levels in such patients. We also recommend conducting further studies on the prevalence of depression and depressive symptoms in people living with rheumatoid arthritis and ankylosing spondylitis and screening for the presence of comorbid depression and its timely treatment.


Abstract: Epstein-Barr (EBV) is a widespread virus which can be detected in more than 90% of world population. Primary EBV infection during adolescence and adulthood results in infectious mononucleosis, while in children it is usually asymptomatic. EBV is responsible for different malignant forms of B-cell or epithelial cancers, such as Hodgkin's and non-Hodgkin’s lymphoma, Burkitt's lymphoma, post-transplant lymphoproliferative disorders, nasopharyngeal carcinoma, hairy leukoplakia and HIV-associated lymphomas. Evidence exists that infection with EBV is also linked with a higher risk of hepatocellular and gastric cancers, as well as autoimmune diseases. EBV shows two alternative life cycles – latent and lytic. After the primary infection, the virus remains in B lymphocytes (latent infection) and its genome localizes in the nucleus under the form of circular episome. The lytic infection takes place predominantly in the epithelial cells and can last for months with constant virus release in saliva and nasopharyngeal secretion. Unlike other herpes viruses, development of oncological diseases is linked with the latent cycle, as a result of immune response’s failure to control latently infected cells. At least 5 viral genes are involved in the process of malignization and especially in blocking tumor-supressive cell mechanisms.
With the present study we aimed to review the current knowledge in mechanisms of EBV pathogenesis in humans.


Abstract: Listeria monocytogenes may cross and proliferate in the placenta and cause severe infections during pregnancy. In pregnant women, listeriosis usually occurs during the third trimester, when cell-mediated immunity is reduced. A common results are abortion, stillbirth, intrauterine and/or neonatal infections. Two forms of neonatal infection exist: early-onset sepsis (acquired in utero) and late-onset meningitis (acquired through vaginal transmission).

Clinical case: The patient was a newborn male, delivered by urgent cesarean section after chorioamnionitis on 02 June 2013 in a small private hospital in Varna. Six hours later he was transferred to our hospital with hypotonia and weak, not rhythmic breathing with lots of crackles. After the admittance, the baby became high oxygen doze dependent with signs of pulmonary insufficiency. The blood tests have shown decreased level of lung perfusion and ventilation, significant hypoxemia and hypercarbia. After 48 hours, the baby was extubated, passed the period after ventilation without complications and started to eat independently. Listeria monocytogenes was isolated from ear secretion, while blood and CSF cultures were negative. The baby was discharged on the 20-th day of his birth with weight of 2000 g and normal lung and heart function. To date, he has normal neurological status, cognitive function and vital signs.