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Experimental works

DETERMINATION OF REGIMES FOR DIPHTHERIA EXOTOXIN MODIFICATION BY CHEMICAL AND PHYSICOCHEMICAL METHODS

Babych E.M., Kalinichenko S.V., Ryzhkova T.A., Sklyar N.I., Ryabovol O.V., Pluhator T.M., Antusheva T.I., Panova C.V.

The possibility of diphtheria toxoid obtaining using chemical (amino sugars, organic acids) and physicochemical (amino sugars, organic acids, ultrasound, temperature) factors was studied. It was established that modifiers (including formaldehyde) volume content decreasing didn't have significant influence on diphtheria toxin derived modifications specific activity. It was experimentally determined that diphtheria toxin modifications obtained by the instrumentality of modifier number 1 with or without the physical factor processing were safe and non-toxic. 5

Key words: diphtheria toxin, toxoid, chemical factors, physicochemical factors.

SPECIFIC DIFFERENTIATION AND EPIDEMIOLOGICAL MARKING OF STAPHYLOCOCCUS AUREUS STRAINS DISTINGUISHED FROM THE CARRIERS OF MEDICAL PERSONNEL AND OBJECTS OF EXTERNAL ENVIRONMENT IN CURATIVE INSTITUTIONS OF THE SOUTH RAILWAY

Rudenko S.S., Korobkova I.V., Sobol O.M., Astapova V.V., Pivnenko T.V., Grechishkina Y.A., Kanives E.A.

Carried out specific differentiation of pathogenic strains of Staphylococcus aureus, which were isolated from various environmental objects surgical hospital, biomaterials from patients. The results of the research brought together strains of pathogenic staphylococci in the lytic group and 4 show the frequency of detection of each analytic group in the particular material. Received the rationale for the introduction of phage-typing method in the practical work of bacteriological laboratories, epidemiological control software in the hospital for bacteriological indicators to effectively combat nosocomial infections. 9

Key words: S.aureus (golden Staphylococcus), nosocomial diseases, treatment-and-prophylactic establishments of medical service of the Southern railway, surgical hospitals, postoperative pyo-inflammatory complications, phagotyping (identified strains microorganism with the set of international specific phages) .

OPTIMIZATION OF CONDITIONS THE CULTIVATION FOR HYALURONIDASE PRODUCTION BY STREPTOCOCCUS PYOGENES

Lukyanenko T.V.

Hyaluronidase is used in biotechnology processes and medicine. A lot of the preparations of hyaluronidase produce from animal source with limited sources of microbial origin. Bacterial hyaluronidase were reported to be virulence factors that facilitate the spreading of bacteria in host tissues by degradation of hyaluronic acid. This article included the results of studies by the choice of optimal conditions of the cultivation for hyaluronidase production by teststrains S. pyogenes. The higher HA detected from the strains from the patients with pneumonia. Optimum values of pH, temperature and cultivation term of microorganisms determined, an influence of components of nutrient mediums on enzyme production was studied. Study of HA of GAS shows the increase in enzyme activity in medium containing glucose, hyaluronic acid, serum and their combination. For increase in activity we recommended calcium gluconate and quaternary ammonium compound at the concentration. 14

Key worlds: hyaluronidase, S. pyogenes, conditions cultivation.

THE STATE OF ANTIMEASLES IMMUNITY IS IN OFTEN BEING ILL CHILDREN AND INTERCOMMUNICATION OF LEVEL OF ANTIMEASLES ANTIBODIES WITH HLA-PHENOTYPE

Usatiy R. S. , Popov N. N. , Romanova E. A., Savvo A.N.

СТАН ПРОТИКОРОВОГО ІМУНІТЕТУ У ЧАСТО ХВОРЮЮЧИХ ДІТЕЙ ТА ВЗАЄМОЗВ'ЯЗОК РІВНЯ ПРОТИКОРОВИХ АНТИТІЛ З HLA-ФЕНОТИПОМ

Усатий Р. С. , Попов М. М. , Романова О. А., Савво О.М.

Conducting this study provided an opportunity to assess the state of specific immunity in measles sickly children, as well as to detect and analyze the relationship measles IgG titer with the level of individual classes of immunoglobulins serum blood and HLA-phenotypes. The data indicate that the development of measles IgG-antibodies is in close contact with the general immunoreactivity body and directly correlated with the level of total immunoglobulin G and affinity IgG that is produced by CAD of the bacteria. Also during the operation revealed that the low intensity of measles immunity is associated with a complex of HLA-DR7 and HLA-DR Blank. Results can be used to predict the effectiveness of vaccination, the timing and modalities of its implementation.

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Key words: measles, vaccination, often ill children.

ANALYSIS OF SOME INDICATORS CELLULAR AND HUMORAL IMMUNITY IN CHILDREN WITH BRONCHIAL ASTHMA

Usenko S.G., *Usenko S.A.

АНАЛІЗ ОКРЕМИХ ПОКАЗНИКІВ КЛІТИННОГО ТА ГУМОРАЛЬНОГО ІМУНІТЕТУ У ДІТЕЙ, ХВОРИХ НА БРОНХІАЛЬНУ АСТМУ

Усенко С.Г., *Усенко С.А

In children with atopic asthma were studied indexes of specific cellular and humoral immunity in the dynamics: when receiving to the clinic before discharge and after 3 months of remission. Changes in some immunological parameters are phase nature. In the period of intensifying of disease a lymphopenia that was expressed in the decline of amount of T and B of cells were marked. Except it, the disbalance of immunoregulatory subpopulations of T-cell was marked, that showed up in the decline of T-helper, and in the increase of T-suppressor-cell for children that are ill atopic bronchial asthma.

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Disimmunoglobulinaemia consisted in the decline of concentration of Ig A, increase of concentration of Ig M and Ig G. The period of clinical recovery was accompanied by normalization of immune status of minor children. Not fully recovered rate of cellular immunity link.

Key words: bronchial asthma, immunity, children.

UKRAINIAN FOUNTAINS OPEN HEARTH INFECTIOUS DISEASES: CAUSES, SITUATION ANALYSIS, SOLUTION

Martynov A.V., Manuilov M.B., Stepanova I.I., Mankovsky V.V., Moskovkin V.M.

ФОНТАНЫ УКРАИНЫ ОТКРЫТЫЕ ОЧАГИ ИНФЕКЦИОННЫХ ЗАБОЛЕВАНИЙ: ПРИЧИНЫ, АНАЛИЗ СИТУАЦИИ, РЕШЕНИЕ ПРОБЛЕМЫ

Мартьянов А.В., Мануйлов М.Б., Степанова И.И., Маньковский В.В., Московкин В.М.

The paper examined the causal links that explain the pattern of contamination of water systems of water recycling fountains by pathogens and proved the irreversibility of the formation of the path of infection of domestic population of by airborne droplets, formed by microbial fogs. Studies of microbiological contamination of water allowed to obtain informative features for preliminary analysis of epidemiological danger of fountains and provided an opportunity to identify the dominant factor – high levels of Mycobacterium tuberculosis in aerosol droplets. On the basis of the collected databases were formulated technical conditions to ensure the security of the collected databases were formulated technical conditions to ensure the security of citizens from all possible negative impacts of fountains, realized in the form of water disinfection technology working with silver and copper, which consistent with international sanitary rules, regulations Ministry of Health Care of Ukraine and environmental legislation.

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Key words: fountains, infection, inactivation, silver – copper electrolysis

ANALYSIS OF ANTIBIOTIC SENSITIVITY OF CLINICAL STRAINS, ISOLATED IN SURGICAL AND UROLOGIC HOSPITALS OF IVANO-FRANKIVSK

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Frych N.I.

АНАЛІЗ ЧУТЛИВОСТІ ДО АНТИБІОТИКІВ КЛІНІЧНИХ ШТАМІВ МІКРООРГАНІЗМІВ, ВИДІЛЕНИХ В ХІРУРГІЧНИХ ТА УРОЛОГІЧНИХ СТАЦІОНАРАХ м. ІВАНО-ФРАНКІВСЬКА

Фрич Н.І.

The sensitivity to antibiotics of various groups of 7903 bacterial strains, isolated from patients with purulent and urological infections in Ivano-Frankivsk hospitals is presented. The causative agents of urinary, wound and purulent infections are Gram-positive bacteria, especially CNS (33,1%), Staphylococcus aureus (29,1 %), and in 35,5 % of cases – Gram-negative bacteria – Esherichia coli (20,4 %), Pseudomonas aeruginosa (7,6 %) and Proteus spp (5,1 %). The regional profiles of drug resistance of wound and urinary infections causative agents was established.

Key words: opportunistic microorganisms, opportunistic infections, antibiotic resistance.

ANTIMICROBIAL ACTIVITI OF EXTRACTS FROM THE LEAVES AND BARK OF BRANCHES OF THE CORNELIAN CHERRY DOGWOOD

Krivoruchko Ye.V., Shulga N.N., Samoylova V.A., Kovalyov V.N.

АНТИМІКРОБНА АКТИВНІСТЬ ЕКСТРАКТІВ З ЛИСТЯ ТА КОРИ ГІЛОК КИЗИЛУ

Криворучко О.В., Шульга Н.М.*, Самойлова В.А., Ковальов В.М.

It were found antimicrobial activity to *S. pneumoniae*, *S. aureus*, *P. aeruginosa*, *K. pneumoniae*, *B. anthracoides* and *E. coli* of extracts from leaves and bark of branches of Cornelian cherry dogwood (*Cornus mas* L.) using the agar diffusion method. It was not found antifungal activity to *C. albicans*. Tincture of the leaves (40 and 70% alcohol) have higher antimicrobial activity than the tincture of the bark of branches (40%) and dense aqueous extracts of leaves and bark of branches of the Cornelian cherry dogwood. 48

Key words: antimicrobial activity, extract, Cornelian cherry dogwood, *Cornus mas* L.

THE ABUNDANCE OF CANDIDIS, THE GENERAL CHARACTERISTICS OF THE PATOGEN, APPROACHES TO THE LABORATORU DIAGNOSTIC

Holubka O.V.

ПОШИРЕНІСТЬ КАНДИДОЗІВ, ЗАГАЛЬНА ХАРАКТЕРИСТИКА ЗБУДНИКА, ОСОБЛИВОСТІ ЛАБОРАТОРНОЇ ДІАГНОСТИКИ

Голубка О.В.

The article contains material devoted to the problem of the *Candida* infection, which is becoming more significant due to its spreading among the population; it covers the issues about the causes of this pathology, among which the most significant is the prescribing of antibiotics therapy, using of hormones, immune suppressants, cytostatics. Based on the research works of native and foreign scholars, the modern attitude to the problem of the early laboratory diagnosis, and, therefore, prompt and justified prescribing of antifungal therapy is presented in the article. The publication contains data about the pathogenic potential of the genus *Candida* fungi. It focuses clinicians and bacteriologists on searching new and improving existing methods of the early and qualified laboratory diagnosis of the *Candida* infection. 51

Key words: genus *Candida* fungi, the *Candida* infection, the laboratory diagnosis of the candidiasis.

Історія науки

History of science

THE HISTORY OF ANTIPHTHISIC SERVICE OF THE KHARKIV REGION AND THE DYNAMICS OF THE EPIDEMIOLOGICAL SITUATION OF TUBERCULOSIS IN SLOBOZHANSCHYNA

Kovalyova G.O., Sencheva T.V., Petrushov A.V., Bondar V.O., Kuchma I.Y., Volynsky A.Y., Martirosyan I.O., Baluta I.M.

ІСТОРІЯ ПРОТИТУБЕРКУЛЬОЗНОЇ СЛУЖБИ ХАРКІВСЬКОЇ ОБЛАСТІ ТА ДИНАМІКА ЕПІДЕМІОЛОГІЧНОЇ СИТУАЦІЇ З ТУБЕРКУЛЬОЗУ НА СЛОБОЖАНЩИНІ

Ковальова Г.О., Сенчева Т.В., Бондар В.О., Кучма І.Ю., Волянський А.Ю., Мартіросян І.О., Балута І.М. 60

Ключові слова: протитуберкульозна служба, диспансер, діагностика, лікування, DOTS-стратегія, програма.

Description of the stages of antiphthisic service of Khar'kovschiny and its modern state is resulted in the article, priority work assignments are considered, the dynamics of pidemiology situation is resulted on tuberculosis

Key words: antiphthisic service, dispensary, diagnostics, treatment, DOTS-strategy, program

I. I. MECHNIKOV AND HIS WORKS ABROD

Galushka R.A., Kuchma I.Yu, Glazunova L.I.

НАУКОВА ДІЯЛЬНІСТЬ І.І. МЕЧНИКОВА ЗА КОРДОНОМ

Галушка Р.А., Кучма І.Ю., Глазунова Л.І.

The main scientific activity of I. I. Mechnikov has been carried out abroad since 1864. At first it was periodical, then since 1888 until his death in 1916 he was working abroad permanently. He developed some aspects of comparative and evolutional embryology and proposed an original theory of multicellular animals origin. He also established comparative pathology of inflammation and hereafter the phagocytic theory of immunity. He also dedicated much of his time to bacteriology: he studied aspects of epidemiology of cholera, typhoid fever, tuberculosis and other infectious diseases and also scientific gerontology. The residence at Institut Pasteur for 28 years was a period of fruitful work and general acclaim for Mechnikov. 65

Key words: Mechnikov, work abroad, scientific labours.