

вивчення природних лікувальних можливостей Прикарпаття і на їх основі розвивати курортну мережу в цьому регіоні для забезпечення потреб в лікуванні та реабілітації хворих.

Ключові слова: Прикарпаття, санаторно-курортне лікування, "Нафтуса", інститут курортології.

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Carpathian capabilities and on their basis to develop a resort network in the region to ensure the needs in the treatment and rehabilitation of patients.

Key words: Carpathian, spa treatment, "Naftusya", Health Resort Institute.

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CAT-SCRATCH DISEASE IN CHILDREN

The relevance of the issue on cat-scratch disease is determined by the widespread prevalence of people's favorite pet, namely, domestic and stray cats. Noteworthy, a cat is kept by every third family in the United States, and 9 out of 10 families in Australia have a cat. The publications report that in the USA about 25,000 people with filinosis (also known as cat-scratch disease) visit outpatient facilities and up to 2,500 people require hospitalization annually. In European countries the expected incidence of the diseases is 10 cases per 100,000 inhabitants. After pathogens got into skin a primary affect occur and limited necrosis develops, which is surrounded by numerous macrophages, multinucleate giant cells, lymphocytes and eosinophils, forming the regional lymphadenitis. The degree of response to infection depends on the immune status of the individual. The prevalence of cat-scratched children is accounted for 80% of sick people. The most serious forms of the disease occur in immunocompetent individuals (cancer patients, individuals after transplantation, HIV-positive people).

Key words: children, cat-scratch disease, treatment.

The relevance of the issue on cat-scratch disease is determined by the widespread prevalence of people's favorite pet, namely, domestic and stray cats. Noteworthy, a cat is kept by every third family in the United States, and 9 out of 10 families in Australia have a cat. The publications report that in the USA about 25,000 people with filinosis (also known as cat-scratch disease) visit outpatient facilities and up to 2,500 people require hospitalization annually. In European countries the expected incidence of the diseases is 10 cases per 100,000 inhabitants. Investigators, who have studied this issue, report that 45-50% of young cats are infected by the pathogen. Furthermore, the fact that the cat-scratch disease causes a severe clinical course in immunocompetent people is of great interest for medical processionals [13, 14]. There is a group of human and animal infectious diseases that are caused by Bartonella henselae intracellular pathogens and are transmitted by contact or transmission. 5 Bartonella species are distinguishws that are pathogenic for people and cause severe diseases, namely, Volyn fever, trench fever, Oroya fever; subacute diseases include cat-scratch disease; chronic diseases are bacillary angiomatosis, purple hepatitis, Peruvian wart, endocarditis, long-lasting fevers with bacteremia.

The cat-scratch disease was described in 1889 by Parini, so this condition was known as Parini syndrome, manifested by fever, lymphadenitis and conjunctivitis. Later on Debre A. and Foshey K. complemented the description in 1932, and V. Mollare expanded it in 1950. In 1983 an unknown microorganism, which was later called Afipia felis, was detected in the vessels adjacent to the lymph nodes in cat-scratched patients. Since 1993 Bartonella have been classified and assigned to the family Bartonellaceae, which is similar to the genus Brucella. Having studied the structure of the ribosomal RNA in the patient with felinosis this pathogen was named Bartonella henselae after D. Hensel, who distinguished multiple strains in Oklahoma, USA. In 1996 species that causes cat-scratch disease, called Bartonella clarrdgeinea, was discovered.

The examination of cat-scratched patients has revealed the incidence of mono infection in 64% of patients; 52% of cases were assigned to mixed infection in combination with Bartonella henselae and 12% in combination with Bartonella quintana. The Bartonella quintana infection has been known since the early 90's, when the pathogen was identified as an opportunistic infection in HIV-infected individuals. Specific antibodies to B. Quintana were found in all age groups of the Ukrainian population from 1.48 to 2.48%, and endocarditis, caused by this species was confirmed in 76.4% of cases [1].

Primarily, a domestic cat is considered as the source and reservoir of infection. Among the cat family the infection is transmitted by fleas Ctenocephalides felis. It has been established that dogs can also be the reservoir of B.henselae. Usually the infection is transmitted from cats aged less than 1 year, because there is the largest circulation of pathogens among young animals, whilst the older animals are developing the immunity. There were cases of penetration of pathogens through the respiratory tract with subsequent development of mediastinitis, primary atypical pneumonia; through tonsils with subsequent development of regional lymphadenitis of submandibular area and through the digestive tract,

accompanied by the enlargement of mesenteric lymph nodes and clinical presentation of the acute abdomen [1, 10]. A certain role in the onset of the disease can play the *Ixodes persulcatus*, *Dermacentor reticulatus* ticks and *Lipoptena cervi* flies, in which an isolated DNA of the pathogen was distinguished. Generalized *B.henselae* infection which was diagnosed after liver transplantation, also does not exclude the possibility of transmission by other ways. *Bartonella* bacteria are gram-negative aerobes that are facultative intracellular parasites, which look like short rods. They have a structured three-layer shell. It is known that the last layer contains 12 proteins. In the host body *Bartonella* grow on the cell surface, they can penetrate and colonize the red blood cells and vascular endothelium by stimulating endothelial cell proliferation and growth of small capillaries.

After pathogens got into skin a primary affect occur and limited necrosis develops, which is surrounded by numerous macrophages, multinucleate giant cells, lymphocytes and eosinophils, forming the regional lymphadenitis. The following stages of histological alterations in the affected lymph nodes are distinguished: reticulum cell hyperplasia, followed by the granulomatous hyperplasia with subsequent neutrophil infiltration and development of central or stellate necrosis (stage of microabscesses). In the immunodeficiency stages the stage of hematogenous dissemination and pathological process is developed, involving parenchymal organs, heart, lungs and sometimes central nervous system. People with immunodeficiency conditions have mostly proliferative vascular damage, especially in angiomas. In peliosis hepatis a dilatation of sinusoids occurs with the formation of numerous lacunar spaces of different sizes, filled with blood, with ruptures of reticular fibers that support hepatocytes and sinusoids [8, 9, 11]. The degree of response to infection depends on the immune status of the individual. The prevalence of cat-scratched children is accounted for 80% of sick people. The most serious forms of the disease occur in immunocompetent individuals (cancer patients, individuals after transplantation, HIV-positive people). A durable immunity develops in the immunocompetent individuals after cat-scratch disease; recurrent cases are rare. The investigators, who studied patients with confirmed *Bartonella henselae*, have noted the acute respiratory infections, chlamydial infection, the Epstein-Barr virus, Human herpesvirus 6 as comorbidity in some children [12].

The clinical picture of the disease at the initial stage is the same in almost all patients. According to the publications the incubation period can last from 3 days to 5-6 months, but on the average it lasts up to 30 days. Taking into consideration a rather long incubation period, the primary affection in the form of scratches or the spot of cat's bite on the patient's body is no longer observed at the time of the visit to a doctor. Sometimes a papule may occur, or a vesicle, sometimes a pustule. In immunocompetent individuals the clinical course of the disease is inapparent. However, some children have regional lymphadenitis, more often under the arm where the primary affect was. Another symptom is a prolonged fever from subfebrile to febrile rates. There are about 5% of cases of fever of unknown origins among patients with cat-scratch disease. Such patients have elevated ESR, though lymphadenopathy is observed in less than half of the cases. Sometimes the disease is manifested by the development of myocarditis. In addition, patients may have hemolytic anemia combined with hepatosplenomegaly, platelet purpura. Eosinophilia and increased ESR are noted in patient's hemogram. Serological diagnostics is carried out using the indirect immunofluorescence method, ELISA. A fourfold increase in antibody titer in paired sera or one-off titer of 1: 512 is detected, which confirms the diagnosis. Currently, the PCR method is still in use. Histological examination of tissue sampling of lymph nodes can also reveal the pathogen.

Treatment of uncomplicated felinosis involves prescription of Erythromycin 4 times a day, Doxycycline 2 times a day or Ciprofloxacin 2 times a day in age-related dosing. The treatment course lasts for 10-14 days. Alternative drugs are Tetracycline, Azithromycin, Chloramphenicol, Cyprofloxacin in the moderate therapeutic doses. The efficiency of the listed drugs is not always evident. Symptomatic drugs, vitamins, antihistamines are also prescribed. Nonsteroidal anti-inflammatory drugs are indicated. Surgery is advocated in lymph nodes softening [6]. Prognosis is favorable in immunocompetent patients. Complications are not common; usually they are presented by suppurating lymph nodes, scar blemishes, mesenteric lymphadenitis, pneumonia, thrombocytopenic purpura, intraosseous defects. In immunosuppressive individuals the prognosis is unfavorable in atypical forms of the disease, usually with the development of endocarditis and heart failure, potential cognitive alterations of the central nervous system. Specific prophylaxis has not been developed to date.

We presented the case report of the 3-year-ols child L., who received treatment in the Children's Unit at the Poltava Regional Infectious Hospital from 12.11.2016 to 12.12.2016. The girl was transferred from some central district hospital where she was treated for 2 weeks with a diagnosis: a fever of unknown origin. Complaints on admission: prolonged fever, which is manifested by 2-3 rises above 38-40°C daily. It is known from the medical history that the child was sick since 1.11.2016. She was treated

in the Children's Unit at the District Hospital for 2 weeks. Cephalosporin antibiotics and symptomatic treatment were used. The history showed that the child lived in the village and liked to play with cats. The examination revealed several facial rashes in the form of spots and papules with a crust in the center [2]. Fine neck, groin and inguinal lymph nodes were painless in palpation and not matted together. Breathing was free through the nose at the rate of 22 per minute. Pulmonary percussion was sounded above the lungs, vesicular breathing in auscultation, heart rhythm is sonorous, systolic murmurs was heard on the apex. Belly was soft, painless, liver + 2cm from the edge of the right costal margin. Defecation was once a day, physiological, diuresis was normal. Complete blood count: red blood cells $3.1 \times 10^{12}/L$, white blood cells $4.5 \times 10^9/L$, Hb - 99h/L, erythrocyte sedimentation rate 22mm/h, eosinophils 1%, stabs 4%, segmented 52%, lymphocytes 39%; urinalysis was normal. Blood was examined for sterility, blood chemistry: kidney and liver samples and HIV antibody, mucus from the oropharynx was cultured, colibacillus inoculation showed no pathological changes. Abdominal ultrasonography, chest X-ray showed no deviations from the norm. The girl was examined and consulted by the ENT specialist, tuberculosis specialist, hematologist, nephrologist, and gastroenterologist, though no pathologies were found. However, the Ig M antibodies to B.henselae and antibodies Ig M anti-VCA EBV (Ebstein-Barr virus) were managed to be found. The final diagnosis was cat-scratch disease, severe course, EBV infection, stage 1 of the deficiency anemia. The patient's management included detoxification therapy, Gerpevir for 12 days, Lorikacin (group of amino glycoside) for 8 days, Cyprinol for 10 days, Edem, Halstena, Enterol, symptomatic treatment, multivitamins. When observed in dynamics, the child had a prolonged fever that lasted about a month. After a course of the therapy the girl was in satisfactory condition, the temperature came to normal; lymph nodes were not palpable, laboratory indices were normal [2, 3].

A preliminary diagnosis of fever of unknown origin leads to delayed treatment and causes loss of confidence in the patient to a doctor [4], so the cause has to be established as soon as possible and the following tests and treatment should be indicated: The first stage – correctly collected epidemiological anamnesis, clinical examination of systems, general clinical and biochemical laboratory methods, scatological study, the assessment of immunogram, bacteriological and virological studies of mucus, feces, urine, discharge from the eyes, blood test for sterility, Mantoux test, chest X-ray, abdominal, kidney, heart and brain ultrasonography. The second stage – repeated bacteriological and virological studies of mucus, feces, urine, discharge from the eyes, detection of markers of hepatitis, infectious mononucleosis, detection of intracellular pathogens Chlamydia, Mycoplasma, Bartonella, DNA viruses by ELISA and PCR methods. MRI of the brain is recommended. The third stage includes the invasive methods: sternal, lumbal and lymph-node puncture, liver biopsy, consultation of surgeon, ophthalmologist with fundus examination, hematologist, immunologist, neurologist [5].

Conclusion

To sum up, the relevance of the issue is caused by not always correct pediatric diagnosis at the outpatient stage: fever of unknown origin. The long-lasting incubation period of bartonellosis, absence of primary affect on the skin, not fully collected epidemiological anamnesis leads to a range of medico-social, health and even psychological problems. Laboratory tests for detecting antibodies to B.henselae enable to establish the diagnosis and to choose treatment.

Perspectives of further research. The findings of the analysis of statistical data and publications will permit to make corrections in physician's actions in establishing the correct diagnosis among children, to arrange trainings for students and medical professionals on the clinical features increase the vigilance of health workers in correctly prescribed treatment.

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Реферати

ХВОРОБА КОТЯЧОЇ ПОДРЯПИНИ У ДІТЕЙ Пікуль К.В., Котелевська Т.М., Тарасенко К.В. Луценко Р.Б., Прийменко Н.О.

Актуальність проблеми обумовлена повсюдною поширеністю тварини-улюбленця людей – домашніх та бродячих котів. У США кожна третя сім'я має цю тварину, а в Австралії з 9 родин з 10 тримають кота. Згідно даних літератури, в США щорічно амбулаторних звернень з приводу фелінозу, як ще називають цю хворобу, фіксують до 25 тисяч звернень і до 2,5 тисяч потребують госпіталізації. Очікувана частота захворювань в країнах Європи 10 випадків на 100 тисяч жителів. Після потрапляння збудників у шкіру спостерігається первинний афект і розвивається обмежений некроз, який оточують численні макрофаги, багатоядерні гігантські клітини, лімфоцити, еозинофіли, утворюючи регіонарний лімфаденіт. Ступінь відповіді на інфекцію залежить від імунного статусу людини. Хворіють частіше діти, близько 80%. Найтяжчі форми виникають у імуносупресивних осіб (онкологічних хворих, осіб, які перенесли трансплантацію, ВІЛ-інфікованих.)

Ключові слова: діти, хвороба котячої подряпини, лікування.

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БОЛЕЗНЬ КОШАЧЬЕЙ ЦАРАПИНЫ У ДЕТЕЙ Пікуль Е.В., Котелевская Т.М., Тарасенко К.В., Луценко Р.Б., Прийменко Н.О.

Актуальность проблемы обусловлена повсеместной распространенностью животного-любимца людей - домашних и бродячих котов. В США каждая третья семья имеет это животное, а в Австралии с 9 семей из 10 держат кота. Согласно данным литературы, в США ежегодно амбулаторных обращений по поводу феллиноза, как еще называют эту болезнь, фиксируют до 25000 обращений и до 2500 нуждаются в госпитализации. Ожидаемая частота заболеваний в странах Европы 10 случаев на 100 000 жителей. После попадания возбудителей в кожу наблюдается первичный аффект и развивается ограниченный некроз, который окружают многочисленные макрофаги, многоядерные гигантские клетки, лимфоциты, эозинофилы, образуя регионарный лимфаденит. Степень ответа на инфекцию зависит от иммунного статуса человека. Болеют чаще дети, около 80%. Тяжелые формы возникают у иммуносупрессивных лиц (онкологических больных, лиц, перенесших трансплантацию, ВИЧ-инфицированных.)

Ключевые слова: дети, болезнь кошачьей царапины, лечение.

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ГІПОУРИКЕМІЧНА ТЕРАПІЯ ДЛЯ ПРОФІЛАКТИКИ ТА ЛІКУВАННЯ ПОДАГРИ: АКТУАЛЬНИЙ СТАН ПРОБЛЕМИ

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Подагра є одним із найбільш поширених ревматологічних захворювань яке уражує суглоби в Україні та світі. В Україні поширеність подагри становить 0,4 % дорослого населення, поширеність гіперурикемії – 15-20% [16]. Запобігання майбутнім подагричним атакам вимагає зниження рівня сечової кислоти в сироватці, що сприяє розчиненню кристалів урату, це відбувається шляхом зменшення синтезу сечової кислоти в сироватці крові та збільшення її екскреції нирками. Інгібітори ксантин оксидази (ІКО), такі як алопуринол і фебуксостат, є препаратами першої лінії для профілактики гострих подагричних атак. Пробенецид (урикозуричний агент) – це допоміжна терапія або препарат другого ряду, який застосовується коли ІКО протипоказані або погано переносяться. Нещодавно кілька препаратів третьої лінії (наприклад, пеглотиказа, лезінурад) стали доступними для лікування рефрактерної подагри.

Ключові слова: гіперурикемія, подагра, гіпоурикемічна терапія, подагрична атака.

Подагра – це ревматологічне захворювання з ураженням суглобів, яке маніфестує після тривалого впливу надмірного рівня сечової кислоти в сироватці крові (гіперурикемія). Причиною