



Sydorchuk A.S.<sup>1</sup>, Moskaliuk V.D.<sup>1</sup>, Bogachyk N.A.<sup>1</sup>,  
Venglovs'ka Y.V.<sup>1</sup>, Sorokhan V.D.<sup>1</sup>, Myndresku V.B.<sup>2,1</sup>  
*1-Bukovinian State Medical University, Ukraine*  
*2 – Regional Hospital, Ukraine*

## THE OUTBREAK STUDY OF LYME DISEASE IN BUKOVINA

Chronic erythema migrans (systemic tick-borne Lyme borreliosis) – is naturally occurred transmissible disease that caused by *Borellia burgdorferi*, characterized by migratory annular erythema, fever, lesions of the central and peripheral nervous system, heart and major joints [2]. Natural foci of borreliosis are in the USA, Australia, Europe and Ukraine [3]. Firstly in Bukovina the disease had been diagnosed in 2000, and today remains a very relevant clinical problem connected with polymorphic symptoms and complicated course [1].

According to annually report of Chernivtsi Regional Epidemiologic Inspection during 7 months in 2012 there were 37 clinical cases of Lyme disease. More than a third of all cases registered in Hlybotskiy and Storozhynetskiy areas. To the highest risk of this infection in Chernivtsi city belongs the territory of city parks, gardens, Komarova and Fastovska streets (5 cases). Vector is Ixodes ticks or deer ticks, which have the most intensive activity in the spring and autumn. Persons got infected when bitten by ticks, while being or resting in the forest park areas [1, 3].

Lack of awareness among general practitioners and variety of clinical features at different stages (neurological and cardiac complications) had lead to delayed diagnosis. Later the development of irreversible changes and consequences, sometimes in the form of disability may occur [2].

This issue has aimed to describe and analyze the outbreak of Lyme disease in Bukovina. Below we are presenting general description of borelliosis clinical cases.

At the department of Infectious Diseases at Regional Clinical Hospital during 2011-2012 we had treated 10 patients as rural (4) and the urban population (6). All patients had associated the disease beginning with a rest-time in the woods and tick bites, which was removed by them. Age surveyed ranged from 33 to 59 years. Among them were 4 men and 6 women. Four patients were hospitalized on the 9-14 days from the time of the tick bite, after month – two persons, and later 2 months – also two patients. Two more sick admitted to the infectious department only after six months.

Diagnosis of tick-borne Lyme disease was suspected at admission in most patients, and only one patient was diagnosed as syndrome of undetected fever.

The first manifestation of the disease was a syndrome of intoxication: severe weakness, drowsiness, headache, chills, fever, myalgia and arthralgia. After 1-7 days on the site of the bite appeared red spot of annular shape, which gradually increased in diameter to the periphery, the center became pale cyanotic («bull's eye» symptom). Hyperemia accompanied by itching (ranging from mild to severe). Localization of

annular erythematic rash was varied: most often in the thigh – in 6 patients, also leg, abdomen and right half of the body – 4 persons. In patients acted during first two weeks of the onset of the disease, the zone of hyperemia was oval, bright, with a diameter of 10-20 cm. In those hospitalized several months after being bitten, we had observed slight pigmentation and skin peeling, and patients noted heart pains, fatigue, irritability (second stage of neurological and cardiac disorders).

The diagnosis was based on data from epidemiological anamnesis, clinical data (manifestation signs), and the results of serological examination – ELISA (detection of specific IgM, IgG to *Borellia burgdorferi* in patients' serum). In the CBC & WBC there was moderate and high leukocytosis, accelerated ESR.

Treatment was carried out at Chernivtsi Infectious Department. The most effective was the following etiotropic scheme: doxycycline (100 mg 2 times a day for 10 days) was administered after another antibacterial agent (ceftriaxone 1.0 g 2 times a day, 10 days). Pathogenetic treatment had included antihistamine drug (loratadine 10 mg once a day, 10 days), detoxification therapy (intravenous infusions of 5% glucose solution with vitamin C – 5% 5 ml, rheosorbilakt).

Especially attention was pointed to two cases of chronic stage of Lyme disease with late diagnosis verification.

Patient N., 39 years old, hospitalized at the Infectious Disease Department for inpatient treatment complaining of general weakness, fever to 37.5 ° C during the month, recurrent pain in the legs and joints. From history we know that suffering over 2 months. He had been treated in the Neurology Department during 2 weeks. Due to the presence of tachycardia, pain in the heart he had transferred to Rheumatologic Department where treated 15 days. It was found that while being on vacation in the forest area in late May, the patient was bitten by tick, which independently removed. Taking into consideration this additional epidemiologically valuable data, the tick-borne Lyme disease was suspected. Just to exclude or confirm the disease the serological test for determination of antibodies IgG (2,06) to *Borellia burgdorferi*, as evidenced like positive result. In this clinical case annular erythema was absent, occurring only in 20-40% [3]. Complaining on pain in the legs, joints could be interpreted as residual arthralgic syndrome.

Patient M., 33 years old, admitted to the Infectious Department on the 12th day of illness with a diagnosis of «fever of unknown etiology.» Complained of chills, fever to 38.5 °C, headache, general weakness, body aches, and joint pain. On examination it had revealed slight pigmentation in the area of the lower third of the right thigh size 10 to 9 cm. Before admission the patient was treated in outpatient angiosurgeon because of thrombophlebitis of the right lower extremity. To clarify the diagnosis, including the epidemiologic data (tick bite in summer), was appointed the immunological blood test for antibodies to *Borellia* which showed the positive result and proved diagnosis. The patient received antibiotic therapy, infusions for detoxification, vitamin therapy. Body temperature returned to normal after 5 days being under stationary treatment, gradually disappeared effects of intoxication.

As conclusion, these clinical cases confirm the difficulties in the timely diagnosis of transmissible especially dangerous infectious disease – Lyme disease. Clinicians should be focused on attentively collected epidemiological history, early diagnostic symptoms of Lyme borreliosis and the importance of sending those «suspicious» patients to specialists from infectious department to exclude or to provide the serological verification of the diagnosis of Lyme borelliosis.

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**Алиева А.А., д.м.н. Галимзянов Х.М., к.м.н. Черенова О.П.**

*Государственное бюджетное образовательное учреждение высшего профессионального образования «Астраханская государственная медицинская академия» Министерство здравоохранения и социального развития, Россия*

### **ДИНАМИКА ФЕРМЕНТАТИВНОЙ АКТИВНОСТИ НЕЙТРОФИЛОВ У БОЛЬНЫХ ХРОНИЧЕСКИМ ВИРУСНЫМ ГЕПАТИТОМ С НА ФОНЕ БАЗИСНОЙ ТЕРАПИИ В ЗАВИСИМОСТИ ОТ ГЕНДЕРНЫХ ОСОБЕННОСТЕЙ**

Хронический вирусный гепатит С (ХВГС) является значимой проблемой здравоохранения в России. Высокий уровень заболеваемости и хронизации инфекционного процесса, преимущественно молодой возраст больных инфицированных вирусом гепатита С (HCV), неблагоприятный прогноз на ближайшие десятилетия обуславливает серьезную значимость этой проблемы переросшей из медицинской в социальную и представляющую угрозу для национальной безопасности страны [1]. Около 3% населения Земного шара (более 170 миллионов человек) инфицировано вирусом гепатита С [2].

Современные подходы к оценке и коррекции состояния ряда энергообеспечивающих систем организма в норме и при наличии патологии невозможны без цитохимического изучения клеток крови.

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