

TICK-BORN ENCEPHALITIS VIRUS MENINGEAL FORM AND LYME DISEASE (BORRELIOSIS) COINFECTION IN LATVIA: CASE REPORT

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Keywords. Tick-borne encephalitis; Lyme disease; Borreliosis

Introduction. In Latvia, tick-borne encephalitis and Lyme disease are not uncommonly diagnosed, but there are no data about coinfections. In 2020 a patient with nonspecific symptoms turned to the family doctor for help, which resulted in a diagnosis of tick-borne encephalitis and Lyme disease coinfection.

Case Description. A 57-year-old male turned to the family doctor with complaints about a fever of up to 39° C for 6 days, a rash on his body and neck, and an itchy and sore forehead. There was also a rash on the inner folds of elbows and erythematous tonsils. Full blood count showed no changes outside of the normal range. At the start diagnosis of acute respiratory infection and reactive dermatitis was made. Symptomatic therapy was started, but when that was ineffective amoxicillin was prescribed.

A week later the patient presented with the same symptoms. Chest X-ray showed no pathology and full blood count was repeated, Yersinia antibodies in blood were negative, and Group A Streptococcal express test was negative. Since symptoms persisted, the patient was advised to seek medical attention at the hospital.

At the hospital, CT for the head was done, conclusion – old ischemia at the left basal nuclei. Cerebrospinal fluid was positive for tick-borne encephalitis virus IgM antibodies and *Borrelia burgdorferi* IgG and IgM antibodies. Also, blood serum was tested, which showed the same antibodies. Diagnosis of neuroborreliosis and tick-borne encephalitis meningeal form was made. It was treated with Ceftriaxone for 12 days and symptomatic therapy. The patient was discharged on day 13th to continue therapy with doxycycline for 10 days.

Summary. Although tick-borne diseases are not uncommon in Latvia, the patient presented with nonspecific symptoms and signs, that could be present in other diseases. Coinfection of two infections made it even more difficult.

Conclusions. Tick-borne encephalitis and borreliosis coinfection should be considered differential diagnoses, especially in endemic areas. Even without known tick bites in recent history.