4. ZOONOTIC AND PARASITIC INFECTIONS: CLINICAL, EPIDEMIOLOGICAL AND LABORATORY ASPECTS

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PCR ANALYSIS IN THE REAL TIME REGIMEN AS A LONG-TERM METHOD FOR LABORATORY DIAGNOSIS OF RICKETTSIOSIS

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The actuality of studying the natural foci of rickettsiosis and the expediency of researches for the revealing of rickettsia DNA in ticks of the Crimea are caused by peculiarities of the region that are favorable for the circulation and preservation of pathogens in the nature.

The purpose of the study was to define the contamination of ticks by rickettsia and determine their species belonging.

Tasks: the organization of ticks collection and carrying out of their specific identification; carrying out of the laboratory researches of ticks — PCR — analysis in the real time regimen (PCR-RV).

Materials and methods — epidemiological and literary data on the study of rickettsiosis in the Crimea; parasitological methods (collection of ticks for the standard flag and dragging, manual collection from animals), specific identification of the ticks, laboratory methods (revealing of rickettsia DNA by PCR-RV using reagents set "RealBest DNA Rickettsia species" ("Vector-Best", Novosibirsk).

1342 specimens of ticks are collected from August to October 2016 and analyzed in total. Specific composition is presented by: *Haemaphysalis punctata* — 65.3%, *Rhipicephalus sanguineus* — 21.8%, *Hyalomma marginatum* — 9.5% and *Dermacentor marginatus* — 3.4%.

Using the PCR test "RealBest DNA Rickettsia species" in 470 from 1342 nucleic acid samples isolated from individual ticks suspensions, DNA marker of rickettsia revealed, a site of the citrate synthase gene *(gltA)*, was detected. 114 positive samples of rickettsia DNA were selected for additional amplicons production and sequencing of their sequences by 3–4 genes (*gltA, ompA, ompB* and *sca4*). The received results of the sequencing were compared with the nucleotide sequences of the rickettsia DNA presented in the GeneBank database. The species of rickettsia was established for 3 to 4 genes.

Analysis of nucleotide sequences indicated about circulation in four analyzed species of ticks collected in the Crimea, in six species of rickettsia, five from them are pathogenic for humans: *R. conori, R. massiliae, R. aeschlimannii, R. mongolotimonae, R. slovaca*.

The PCR test "RealBest DNA Rickettsia species" allows detecting in the extracted nucleic acid samples the DNA-marker of rickettsia circulating on the peninsula and can be considered a long-term method for laboratory diagnosis of rickettsiosis.

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LESIONS OF THE GASTROINTESTINAL TRACT IN SCHOOLCHILDREN INVASED BY LAMBLIA

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In recent years, more and more often among residents of the Russian Federation, especially among children, cases of parasitic infestations have been recorded, among which a special place is occupied by lambliasis, which often occurs under the mask of the lesion of gastrointestinal tract and is not always recognized in time.

The purpose of the study was to analyze lesions of the gastrointestinal tract in schoolchildren invaded by lamblia.

Under supervision there were 55 children of school age of whom 60% were children with gastrointestinal lesions. The diagnosis was confirmed by a coprological examination of feces for lamblia cysts.

According to the results of ultrasound investigation, all children showed lesions of the gastrointestinal tract, manifested in the form of reactive changes in the pancreas — 2.1%, reactive changes in the liver — 15.2%, signs of biliary dyskinesia — 18.2%, combined liver and pancreatic lesions — 15.2%, combined liver and pancreas damage, and signs of biliary dyskinesia — 18.2%, liver damage and signs of biliary dyskinesia — 12.1%, as well as pancreatic lesions and signs of dyskinesia of bile ducts — 9.1%. In most cases — 75.8% of children received the drug Makmiror at the rate of 15–30 mg per 1 kg of body weight for 7 days. Albendazole was received by 24.2% of children at 12 mg/kg body weight.

Lambliasis was registered most often in children of primary school age, which may indicate an incomplete knowledge of the rules of personal hygiene. The main causes of the disease were non-compliance with personal hygiene and contact with domestic animals, more often with cat. The main complaints of children were abdominal pain, nausea, decreased appetite, loosening of the stool and allergic reactions to the skin.

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CLINICAL-EPIDEMIOLOGICAL AND LABORATORY-INSTRUMENTAL ASPECTS OF NON-ERYTHEMATOUS FORM IN PATIENTS WITH TICK-BORNE BORRELIOSIS

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Tick-borne borreliosis remains like the most common natural focal disease with a transmissive mechanism of the pathogen. Despite the introduction of advanced technologies of early diagnosis and modern methods of treatment doctors are faced with such a problem as medical examination and diagnosis of patients with tick-borne borreliosis.