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**CLINICAL AND LABORATORY CHARACTERISTICS OF TICK-BORNE SPOTTED FEVER IN CHILDREN OF PAVLODAR REGION**

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Tick-borne rickettsiosis is an acute infectious naturally occurring obligate-transmissible disease characterized by a febrile state, primary affect, enlargement of regional lymph nodes, rosepapulmonary rash [2].

The International Classification of Diseases, 10th Revision, distinguishes between: Spotted fever caused by rickettsiarickettsii (A77.0), Spotted fever caused by rickettsiaconorii (A77.1), Spotted fever caused by rickettsiasiberica (A77.2), Spotted fever caused by rickettsiaaustralis (A77.3), Other spotted fevers (A77.8), Unspecified spotted fever (A77.9)

Most rickettsiae of the CRP group are ecologically associated with ixodid ticks of the genera: Dermacentor, Hyalomma, Rhipicephalus, Heamaphisalis, Ixodes and Amblyomma. Nineteen species of rickettsiae of the KPL group are pathogenic to humans: aeschlimannii, africae, akari, australis, conorni, felis, heilohgjiangensis, helvetica, honei, japonica, massilae, monacensis, parkeri, philipii, raoultii, rickettsii, sibirica, slovac, tamurae. Some of these rickettsias, such as R. conorii and R. rickettsii, can cause severe and fatal disease.[4] The infectious agent is transmitted to humans by the sucking of naturally infected ixodid ticks of various species. Wild and domestic animals and rodents are considered to be an intermediate reservoir of infection. The carriers of rickettsiosis are various types of ticks. Since these insects multiply in summer (May-September), the incidence of the disease increases sharply during this period. Most often the infection affects people working outside (dachas, vegetable gardens, pastures), contacting with animals. [1].

Topicality of the subject.

In RK from 1993 till 1996 tick-borne spotted fever group rickettsiosis (CBF) was registered in single cases in Akmolinsk, West-Kazakhstan, Karaganda, North-Kazakhstan, South-Kazakhstan regions; since 1997 till present time in these territories tick-borne spotted fever group rickettsiosis was not registered according to official data. In Almaty oblast from 1993 to 1996 there were 32 to 12 cases of CR (morbidity index was 2.71-0.95). Since 2002 rickettsiosis of tick-borne spotted fever group has not been registered in Almaty region. At present more than 90% of diseases are in North-Kazakhstan region (33,0% each), Pavlodar region (17,7%) and East-Kazakhstan region (9,3%). These results show that the infection rate of ixodid ticks in the territory of Kazakhstan is high and it is necessary to deeply study this direction [3; 5].

The aim of the study is to improve the verification of clinical diagnosis by analyzing and systematizing the features of the clinical course, laboratory parameters of spotted fever in children.

Material and methods of investigation Retrospective clinical analysis.

Fifty-seven case histories of patients with spotted fever were evaluated for the study.

Children hospitalized in IS DOH Pavlodar during 5 years (from 2015 to 2019) were under observation. Laboratory diagnosis was carried out by polymerase chain reaction, DNA- rickettsia was determined. Blood and scrapings from the scab (primary affect) were taken as the research material.

#### Results of the study

Of the 57 patients observed, boys accounted for 49% and girls for 51% (28 and 29 children, respectively), with ages ranging from 7 months to 17 years 9 months.

In 2015, 15% of cases of CPP were detected (9 children, respectively); in 2016, 25% of cases of CPP were detected (14 children, respectively). In 2017, 18% of cases were detected in children (10 children, respectively). In 2018, 4% cases of CPP were detected (2 children, respectively), in 2019, 38% cases of CPP were detected (22 children, respectively).

The disease occurred most frequently in spring (62%) (March - 0, April - 18, May - 17), the rise in incidence was also registered in summer (33%) (June -7, July -6, August - 6). Single cases were registered in September - 5%. At admission all children had a fever of subfebrile to 40°C (100%), lymphadenopathy, more frequent in the anterior, posterior, parotid, submandibular, occipital and axillary lymph nodes (92%) and abundant rash (on days 2-4) - rosepapule-like, spotty-papule-like (100%). Localization of rash: on extremities (inner surface, soles, palms), with spreading to face, torso. In addition to the above symptoms, headaches, catarrhal symptoms, joint and muscle pain, abdominal pain, nausea, vomiting, weakness, decreased appetite were also noted.

Past medical history: most patients (87%) were residents of rural areas, or had traveled outside the city limits (9%). In 90% of patients there was a history of tick bite, on the place of bite (primary affect) mainly on the scalp, on the neck, shoulders, thighs.

Changes in peripheral blood in the midst of the disease were reduced to the normal content of leukocytes, a relative increase in neutrophils and increased sedimentation rate. The level of enzyme activity (ALaT, ASaT) was moderate and did not exceed the norm by more than 1.5-2 times.

Spotted fever caused by rickettsia siberica (A77.2) was diagnosed in most cases (56%), in the rest (4%) - Other spotted fever (A77.8), (40%) - Unspecified spotted fever (A77.9).

Children hospitalized early in onset (before 3 days) tended to improve more rapidly compared to those hospitalized late, which also determined the length of hospitalization. In most patients, the duration of hospitalization did not exceed 5-6 days.

#### Conclusion

The results of the study showed that the incidence of tick-borne spotted fever is independent of age and sex. The disease is characterized by seasonality, so the peak of morbidity falls on the period from April to August. Over the past 2019 season, according to statistics, there was an 18% increase in reported cases compared to the 2015 season.

In general, in terms of severity of clinical symptoms, the disease, in the cases compared, proceeded almost equally (primary affect on the place of tick bite, the most frequent complaints are temperature increase, regional lymphadenitis, rosepapulopulmonary rash). People in contact with animals, who live or travel to rural areas during the season are most at risk of the disease.

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