

AN ANALYSIS CRIMEAN – CONGO HEAMORRHAGIC FEVER IN KAZAKHSTAN

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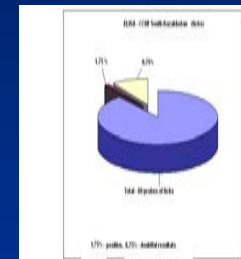
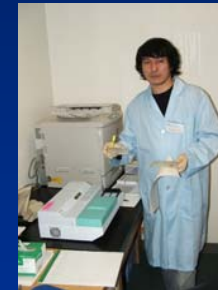
Abstract

The first strains of CCHF virus in Kazakhstan were isolated from the ixodids tick species *Hyalomma asiaticum*, and later from patient's blood. The CCHF foci were manifest in Southern Kazakhstan, Zhambyl and Kyzylorda Oblasts, where epidemic outbreaks were most intensive. An analysis antiviral antibodies [average annual data] shows that the first human cases of CCHF occurred in late March (0.8%) and April (29.5%). The disease peaked in May (53.2%). Most of sick people were males (68.5%). These percentages are calculated on the bases of 100% equalling the total number of cases per year. The current laboratory diagnostics for CCHF are based on serological techniques. They are effective and informative for early diagnosis of disease.

ELISA for the CCHF virus antigen showed that of 80 *H. asiaticum* tick suspension samples from Southern Kazakhstan Oblast, 7 (8.75%) had controversial results, and one (1.25%) case was positive.

- Materials and Methods.** Research of blood sera for antibodies utilized enzyme-linked immunosorbent assay (ELISA). The work utilized ELISA test system (antigen, JgG) for CCHF manufactured by Vector-Best, Novosibirsk. The research utilized 86 human blood serum samples and 790 *H. asiaticum* ticks.

Results. A total of 86 blood serum samples from Kyzylorda Oblast were ELISA-researched. Of these 86, four samples (4.6%) were positive for the CCHF virus antibodies. Blood sera had been collected from people living in a CCHF endemic area with the disease record. The research shows that people who live in endemic areas get infected with CCHF. The blood serum also had positive results for CCHF. For instance, of 40 residents of Shiyeli, 2 (5%) were positive. These people never went to the hospital for treatment. Of 46 blood serum samples in Zhanakorgan, 2 (4.3%) were found positive, and those people did not seek medical assistance either. In endemic areas, people have a mild form of CCHF, without any visible clinical signs. Most likely, it has something to do with the virus dose and its virulence in ticks. Fatalities and high incidence occur when there is good climatic environment for ticks and when the outside temperature is between 16 and 30 degrees, and there are good feeding conditions for *H. asiaticum* ticks.



- ELISA for the CCHF virus antigen showed that of 630 *H. asiaticum* ticks from Kyzylorda Oblast, 28 (or 4.4%) were positive; 1.7% of them were positive samples of ticks from Zhanakorgan, 1.9% were positive samples of ticks from Shiyeli, and 0.7% were positive samples of ticks from Dzhusaly.



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