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Emerging viruses

Tick surveillance for Crimean Congo haemorrhagic fever virus in Bulgaria

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Objectives. The first cases of Crimean Congo hemorrhagic fever (CCHF) in Bulgaria have been described in 1952. Usually, a few CCHF cases are reported annually in the country. For the last 4 years, 2011-2014, a total of 21 CCHF cases have been confirmed. These cases originated from 6 districts out of 28 in Bulgaria (Kardzhali, Haskovo, Pazardzhik, Blagoevgrad, Yambol, and Shumen), all of them located in South, Southeast and East Bulgaria. The aim of this study was to investigate presence of CCHF virus in ticks, collected from livestock in the endemic districts and to compare the results with epidemiology of CCHF cases reported in Bulgaria and with data from seroprevalence studies of inhabitants of the affected regions. **Methods.** To detect CCHF virus in patients, RT-PCR nested and realtime techniques were used. Specific antibodies in serum samples of patients and healthy inhabitants were detected by specific ELISA. **Results.** Most CCHF cases in the last years came from districts of Kardzhali, Haskovo, and Blagoevgrad and only one case per district was confirmed from districts of Pazardzhik, Yambol and Shumen. Seroprevalence studies showed slightly different results - much higher seroprevalence in Kardzhali, Haskovo and Pazardzhik and lower seroprevalence of CCHF in Blagoevgrad, while in Yambol and Shumen antibodies against CCHF virus were not detected in healthy individuals. A total of 233 *H. marginatum* ticks collected from 79 animals (livestock) in the district of Kardzhali were investigated for CCHF virus. Tick infectivity detected was 7,3% (17 PCR-positive ticks) and animal infectivity was 8,9% (7 CCHF virus-positive animals). **Conclusion.** The results of this study showed active CCHF virus transmission in Southern and Eastern Bulgaria. Even at low risk, Bulgaria is endemic for CCHF. Further studies are needed to investigate tick-reservoir-host chain to support the risk assessment.