

## P0217 A country-wide seroprevalence screening for tick-borne encephalitis virus in livestock of Bulgaria

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**Background:** Tick-borne encephalitis (TBE) is of increasing importance in Central Europe. In Bulgaria, only a few TBE cases have been confirmed. A nation-wide seroprevalence study of healthy people revealed an overall seroprevalence rate of 0.6%. Similar studies in animals have not been conducted in the country for the last 20 years. Wild and domestic animals develop antibodies against TBE virus (TBEV) after infection, while viremia is short.

**Materials/methods:** A total of 950 serum samples from livestock: cattle, sheep and goats, originating from all administrative regions in Bulgaria were tested for presence of specific IgG antibodies against TBEV. The samples were collected by veterinary personnel in 2014-2016. All samples were tested using “Immunozytm FSME IgG All Species ELISA kit®” (Progen, Heidelberg, Germany) according to the manufacturer’s instructions.

**Results:** The total seroprevalence rate of livestock was low, 0.42%. Specific IgG antibodies against TBEV were detected in 4 cattle, originating from 2 districts: Pernik and Razgrad, located in the western and north-eastern Bulgaria, resp. Consequently, seroprevalence rates in the districts of Pernik and Razgrad were 6.67% and 6.25%, resp. A total of 4 human TBE cases have been detected in the district of Pernik in the last two years, while the district of Razgrad has no known history of TBE cases. In addition, borderline reactions by ELISA were detected in serum samples from 6 cattle and one sheep. The overall seropositivity, counting all positive and borderline reactions, was 1.15%. Four of these seven animals originated again from the two above mentioned districts.

**Conclusions:** Results of this first country-wide study of TBEV circulation in livestock in Bulgaria showed low overall seroprevalence rates but two active centers. Since cow milk and its products are highly consumed throughout the country, raw milk consumption could be of epidemiological importance. Additional risk assessments and studies should be considered.