ALIMENTARY TBE INFECTION IN GERMANY

Background

The main route of TBE infection is by tick bite and in Germany some 200 to 500 TBE cases are reported annually. Most cases occur in southern Federal States. TBE can also be acquired by consumption of unpasteurized milk and milk products and most food-borne TBE infections have been reported from eastern Europe and the Baltic states. So far, no alimentary TBE infection had been reported in Germany, but recently a cluster of two human TBE cases caused by the consumption of unpasteurized goat milk and cheese has been reported.

Results

In May 2016, a patient who had visited a dairy farm in Baden-Wuerttemberg (a Federal State in southern Germany) developed TBE after the consumption of unpasteurized goat milk and cheese. A week later, a second individual showed typical signs of TBE and the districts public health office started an investigation. The sale of the farm's dairy products was stopped, and dairy products were recalled on day 42. A total of 22 cheese samples and one milk sample from 18 different batches were analyzed. In five samples from five different batches the TBE virus RNA could be detected. In two of these five samples, TBE virus could be isolated in cell culture. The glycoprotein E gene from these two virus isolates was sequenced and verified to be identical. The closest phylogenetic relation was found to strains from Austria and Switzerland. Nine of 45 goats from the farm had neutralizing TBE antibodies, however, none of them was viremic at the time of testing. A total of 424 ticks were collected close to the farm from July to September 2016 and one adult *Ixodes ricinus* female pool was PCR-positive for TBE virus. The sequence of the gE gene from tick derived virus was nearly identical to the cheese derived virus.

Discussion

Various aspects of this simultaneous occurrence of two TBE cases after consumption of unpasteurized goat milk and milk products have been discussed in this contribution. In the context of this publication, it is worth to note that TBE has recently been diagnosed in a sheep only 68 km away from this reported milk-borne TBE cluster (see snapshot week 13). It is warranted to reassess the consumption of unpasteurized milk and milk products and henceforth, physicians in central Europe should also consider this route of TBE virus infection.

Literature

Brockmann et al.

A cluster of two human cases of tick-borne encephalitis (TBE) transmitted by unpasteurized goat milk and cheese in Germany, 2016.

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