Bluetongue virus (BTV) is a double-stranded RNA-virus of the genus Orbivirus that causes a non-contagious, arthropod-borne disease of domestic and wild ruminants and camels. BTV is transmitted to its hosts by the bite of midges of the Culicoides spp. and can cause serious disease, particularly in sheep. BTV was never reported in any European country north of the Alps until August 2006, when outbreaks of BTV serotype 8 (BTV-8) were almost simultaneously discovered in Belgium, France, Germany and the Netherlands. In 2006, a total of 893 cases were detected in Germany, however, the source of initial virus introduction remains obscure. Subsequently, BTV-8 overwintered in the region, spread over most of the country and led to almost 20,000 new cases in 2007 in Germany. BTV-8-infections were also reported from additional European countries like UK and Switzerland.

Experimental inoculations of cattle and sheep with a German BTV-8 isolate resulted in infections with very mild clinical signs. However, BTV-8-genome could be detected by rRT-PCR for more than 200 days in blood samples of infected animals. Furthermore, epidemiological analyses revealed a high mortality and case fatality rate of the reported BTV-8-cases for infected sheep. Real-time RT-PCR analysis of midges caught with ultraviolet light traps demonstrated BTV-8-genome in several pools (up to 50 midges) of the Culicoides obsoletus complex. Therefore, indigenous common midges of the Culicoides spp. have to be considered as a competent vector system for BTV-transmission.

In conclusion, the epidemiological situation of the emerging BTV-8 epidemic will be presented and possible control strategies discussed.

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Human hantavirus infections in Europe can cause haemorrhagic fever with renal syndrome (HFRS) of variable severity. In Germany Puumala virus (PUUV) causes the majority of clinically apparent human hantavirus infections, typically causing a mild HFRS, which is referred to as nephropathia epidemica (NE). Dobrava-Beiglade virus (DOBV), which is carried by the yellow-necked mouse (DOBV-Af), can cause severe HFRS. DOBV-Af is widely distributed in South-eastern Europe. Another DOBV-Af-related genetic lineage, associated with the striped field mouse, is represented by the DOBV-Aa. Human infections with DOBV-Aa in Germany are characterized by a mild to moderate course of HFRS comparable to NE.

A 65-year-old male patient was admitted to Frankfurt am Main hospital from an emergency unit to which he had been driven from Serbia one day previously, because of three days of chills, fever up to 40°C, and fatigue. Based on the admission findings of high fever, oliguria, and haemorrhage in gastric mucosa, and laboratory parameters of thrombocytopenia, proteinuria and haematuria, a DOBV infection was suspected. This was confirmed by detection of DOBV-specific IgM and IgG antibodies and DOBV-specific RNA. Acute renal failure developed during the second week of his illness, for which he was dialyzed followed by supportive therapy. After four weeks of intensive supportive treatment the patient was discharged with reduced renal function.

This report is intended to increase the awareness of physicians and virologists of the severe course of DOBV-Af-related HFRS that might be imported to non-endemic regions, where typical PUUV-related NE or DOBV-Aa-related HFRS is not severe.

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