Reoccurrence of malformations due to Schmallenberg virus infection in calves in Bavaria 2016

Schmallenberg virus (SBV) first appeared in 2011 in the border region of Germany and the Netherlands and spread rapidly over large areas of Central and Western Europe. Contrary to the other parts of Germany, Bavaria was barely affected during the first wave of infection in summer and autumn of 2011. In summer and autumn of 2012, however, cases of virus detection increased here, whereas only few cases were reported from the remaining areas of Germany, most likely due to a high level of protective immunity in holdings with ruminants. Subsequently, a high number of SBV positive calves with typical malformations were admitted to the Bavarian Animal Health Service (Tiergesundheitsdienst Bayern e.V.) for necropsy in 2013 (Figure to the left). In 2014 and 2015 Schmallenberg virus was not found in any of the calves submitted for examination. Therefore it was assumed that the rate of infection in Bavarian cattle holdings was close to 100% in 2012 so that all pregnant animals were protected by antibodies against the virus.

It now emerges that the virus has not disappeared from the Bavarian cattle population.

Already in summer 2015 antibodies against SBV were found in milk samples from cows in first lactation from farms in Southern Bavaria and virus was detected in blood samples from animals tested for export.

As it was assumed, calves with typical malformations due to SBV infection reappeared in the calves submitted to the pathology department of the Bavarian Animal Health Service in the first half of 2016, however, cases were also geographically restricted to the South of Bavaria (Figure to the right).

SBV was unknown until it was first detected by the Friedrich-Loeffler-Institut, Germany in November 2011. Schmallenberg virus is in the Simbu serogroup of the Orthobunyavirus group. This group of viruses includes many different viruses which occur in America, Asia, Africa and Australia, but have not previously been identified in Europe. Schmallenberg Virus is mainly transmitted by midges. Acute infections occur seasonally with higher incidences in summer and autumn when midges are most active. Generally, there are only weak clinical signs in the adult cows that are associated with the infection, like fever, decreased milk production and diarrhea. Vertical transmission of Schmallenberg virus and infection of the fetuses (between day 75 and 175 of pregnancy in cows) can lead to embryonic mortality, abortions, stillbirths, and malformations, mainly of the spine, limbs and brain in newborns.

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