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Cluster of trichinellosis cases in Mecklenburg-Vorpommern, Germany

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Seventeen cases of trichinellosis were detected among members of an extended family living in the state of Mecklenburg-Vorpommern, eastern Germany between December 2005 and March 2006. On 21 March 2006, health authorities in the district were notified of a laboratory diagnosed case of trichinellosis. The patient, a 30 year old woman, had been admitted to hospital on 22 February 2006 with diarrhoea, nausea, fever, facial swelling and muscle pain.

The patient's blood was tested for IgG and IgM antibodies to *Trichinella* as part of the differential diagnosis, using enzyme-linked immunosorbent assay (ELISA). *Trichinella* larvae were found in a muscle biopsy using immunoflourescence microscopy. The local health and veterinary authorities suspected that pork from a home-reared pig that had been slaughtered at a local butcher's was the source of infection.

On 23 March, a second case was notified in the mother-in-law of the first patient. The second patient had first become ill in December 2005 with unexplained diarrhoea, nausea, fever, facial swelling and muscle pain, and was admitted to hospital for two weeks. After the identification of the illness in her daughter-in-law, she was again admitted to hospital from 21 – 27 March and trichinella larvae were identified in the remainder of a frozen muscle biopsy specimen taken in December 2005. The diagnosis was confirmed by serology.

After exchanging information between veterinary and local government authorities, and the Federal Authority for Risk Assessment, the local health authorities contacted 22 people who had all consumed meat and meat products (raw minced pork, uncooked smoked sausage ('Mettwurst'), and ham or liver sausage) made from the suspect pork flesh. Blood samples from seventeen of these people tested positive for trichinella infection using ELISA. Sixteen of these people also had clinical symptoms of trichinellosis: 12 had muscle pain and facial or joint swelling, and 10 had diarrhoea. Fifteen of these patients were admitted to hospital for treatment.

On 20 April, a further case of trichinellosis was identified in a 42 year old man, a neighbour of the affected family. The man had also consumed smoked sausage made from the pork from the neighbour's pig. He presented with neurological symptoms including visual disturbances, a suspected stroke due to vasculitis, and peripheral weakness in all limbs. He was treated in a neurological rehabilitation centre.

One serologically-confirmed case had no clinical symptoms. Four people who consumed the implicated meat did not develop suspect symptoms, and their serology was negative. The newborn child of a mother with trichinellosis also tested negative.

Some bacon left over from the implicated pig was examined for trichinellosis using the digestion method. A high density of trichinella larvae was identified (106 larvae per gramme of bacon). These were characterised with multiplex PCR as *Trichinella spiralis*.

Since 1900, it has been a legal requirement in Germany for commercially-slaughtered pigs and other animals that can harbour trichinella (particularly wild boar and horsemeat) to be inspected for the larvae (since 1937 for home-slaughtered animals). However, there is evidence that this requirement is not always adhered to, particularly when the meat is home-slaughtered, is from wild pigs or is imported. Investigations into how meat from the infected pig was able to pass safety inspections are continuing. Trichinellosis is a rare disease in Germany: five cases were notified in 2004, and no cases were notified in 2005.

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