Stability and presence of viruses in food production chain and industrial food processing (VirSta) -project
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Information about zoonotic hepatitis E virus for slaughterhouse and cutting plant workers

What is zoonotic hepatitis E virus?

Zoonotic hepatitis E virus, abbreviated HEV, causes hepatitis, i.e. liver inflammation. The virus can spread between humans and animals, either directly or via food. Zoonotic hepatitis E virus is mainly found in pigs, but it has also been found in wild boars and cervids, such as moose and white-tailed deer. The virus occurs widely around the world, including Finland. The prevalence of infections in wild animals and pigs for slaughter is mainly lower in Finland than in other countries. Therefore, the risk of contracting zoonotic hepatitis E virus is not high, and in Finland only a low number of cases are recorded each year. Some hepatitis E viruses are zoonotic, while some can spread only from person to person or only among certain animal species. This text focuses only on zoonotic hepatitis E virus.

Where can you get infected with zoonotic hepatitis E virus?

Zoonotic hepatitis E virus is excreted in the faeces of an infected animal. For humans to be infected, viruses must end up in the mouth, for example via one's hands, when working with pigs. The virus can be present in the blood and organs of pigs or game animals, so the infection can be obtained through contaminated food made from pig products.

Slaughterhouse and cutting plant workers may be exposed to hepatitis E virus when working with live pigs in slaughterhouse rooms, during slaughtering, and when handling carcasses and cuts in the cutting plant. Hepatitis E virus can end up in the person's mouth or on mucous membranes, for example through splashes, contaminated surfaces or indirectly through gloves. One can also become infected if pig's blood or feces end up in an open wound, for example when one cuts oneself with a contaminated knife. In Finnish pigs, the risk is lower than in some other countries, as only a few Finnish pigs in the slaughter stage still carry the virus. Freezing does not destroy hepatitis E virus, and the virus survives for a long time also at room temperature.

What symptoms does zoonotic hepatitis E virus cause?

In humans, the intensity of symptoms varies in zoonotic hepatitis E infection, but most often the infection is asymptomatic or mild. The virus can cause liver inflammation. In mild cases, the symptoms may resemble flu, accompanied by yellowing of the eyes and skin, i.e. jaundice, as signs of a liver infection. The patient usually recovers without treatment, but the symptoms can be alleviated with supportive care if necessary. However, people with reduced immunity, such as the elderly, transplant patients and those with liver disease, can become seriously ill. In such cases, the infection can also persist for a long time, leading to liver failure and, in the most severe case, even death. The hepatitis vaccines that are currently used in Finland or elsewhere in the Western world are not targeted against hepatitis E virus.

In animals, hepatitis E virus infection is asymptomatic, and infection cannot be diagnosed visually in a living or dead animal.

How can you protect yourself from zoonotic hepatitis E virus?

Since infected pigs cannot be identified by symptoms and screening or eradicating the virus from pigs is not feasible, slaughterhouse and cutting plant workers can protect themselves from hepatitis E virus by working hygienically. This means that workers should always wash their hands, when necessary, especially after leaving the production premises, and avoid touching their face while working. In addition, hygienic handling involves ensuring that the work tools are effectively cleaned during work to avoid the possible spread of the virus from one product to another. Any wounds of the workers should be covered, and protective gloves should be worn.