

HEV in the pork food chain in United Kingdom

*Martelli F.**

Berto A., Grierson S., Banks M.

Veterinary Laboratories Agency, Weybridge, UK

**Veterinary Laboratories Agency – Weybridge, Woodham Lane, New Haw, Addlestone, Surrey, KT15 3NB, UK
e-mail: f.martelli@vla.defra.gsi.gov.uk; fax: 44 1932 357595*

Abstract

Hepatitis E virus (HEV) is responsible of acute viral hepatitis in people and it is endemic in developing countries where it is transmitted mainly through faecal contamination of drinking water. Some of the cases in developed countries are autochthonous. The presence of an animal reservoir was hypothesized and HEV strains closely related to the ones circulating in human were found in pigs, wild boars and deer. Foodborne transmission of HEV via consumption of contaminated meat and presence of viable virus in pork products were demonstrated.

The European FP7 project VITAL (Integrated Monitoring and Control of Foodborne Viruses in European Food Supply Chains) aims to gather data on virus contamination of food and environmental sources, for quantitative viral risk assessment. In the UK the contamination level of HEV in the pork food chain was investigated. Three phases of the chain were investigated: production (slaughterhouse), processing (meat processing plant) and points of sale. Different sample types were collected: faeces and livers (production), muscle samples (processing) and sausages (point of sale). Additional samples (mainly surface swabs) were collected in the premises in areas where viral contamination was considered more likely. All sample types were tested with standardized protocols (real-time PCR) for the detection of HEV (target virus) and Porcine Adenovirus (PAdV; indicator of faecal contamination). HEV was detected at different levels in samples from the production phase and from the point of sale (testing of some samples has still to be completed). Further studies are ongoing to determine the viability of HEV detected by real-time PCR. PAdV was detected only in the production phase, both from pig samples and from environmental swabs.

The results of the investigation conducted in the UK within the VITAL project underline the possible public health risk associated with consumption of undercooked pig meat or liver. Information on the viability of the virus will be indispensable to assess this risk. Viral contamination of surface swabs underlines that viruses as well as bacteria should be monitored in environmental samples.