Porcine blood as sporadic source of foodborne hepatitis E virus for pork meat products: preliminary results

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Discussion and Conclusion
Sporadic detection of HEV in porcine blood suggests that blood could be a virus source for pork meat products when used for their production. Likewise these results may also indicate at low prevalence of HEV infections in pigs raised in Poland. Additionally, the sporadic finding of pAdV in IRM confirms maintaining of good sanitary conditions during animal slaughter and subsequent processing of meat and blood.

Material and Methods
An incoming raw material (IRM) encompassing porcine blood (56 samples), liver (47 samples) and minced meat (56 samples) were analyzed for the presence of HEV and porcine adenovirus (pAdV) as an index virus of faecal contamination. IRM was collected from the local slaughterhouse and meat retailers. Virus extraction from pig liver and minced meat was performed using TRIzol (TRI Reagent®) followed by isolation of viral RNA using a NucliSens kit (BioMérieux) (Szabo et al., 2015). A QIAamp® Viral RNA Mini Kit (Qiagen) was used for processing of RNA Mini Kit (Qiagen) was used for processing of RNA. A sequence analysis of the virus ORF 2 genome fragment identified HEV 3e subtype. PAdV was also amplified and sequenced and based on database analysis the pAdV strain is closely related to porcine adenovirus type 2 (Maunula et al., 2013).

Results
In total, 159 samples were tested for the presence of enteric viruses. HEV was solely detected in one sample of porcine blood which contained 1.4 x 10^7 HEV genome copies/ml. None of the tested samples of pork liver (0/47) and minced meat (0/56) was positive for HEV RNA. A sequence analysis of the virus ORF 2 genome fragment identified HEV 3e subtype. PAdV was present in six samples of pig’s blood (6/56).

Introduction
Hepatitis E virus (HEV) is recognized as a zoonotic pathogen transmitted via foodstuff. The aim of the present study was an assessment of the occurrence of HEV in porcine blood, liver and raw minced meat used for production of pork meat products.

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Results
HEV genome copy/ml. None of the tested samples of pork liver (0/47) and minced meat (0/56) was positive for HEV RNA. A sequence analysis of the virus ORF 2 genome fragment identified HEV 3e subtype. PAdV was present in six samples of pig’s blood (6/56).

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