

P0780 The importance of urine PCR analysis in the diagnosis of hepatitis EAnastasiya Arabey*¹, Sergei Zhavoronok¹, Svetlana Marchuk¹¹ Belarusian state medical university, Minsk, Belarus

Background: Hepatitis E virus (HEV) is a pathogen associated with acute viral hepatitis. Rabbits could be a suitable animal model for investigation of HEV.

Materials/methods: Eight SPF rabbits were inoculated intravenously with rabbit HEV strain. Five rabbits were inoculated with sterile PBS as negative controls. Blood, urine and fecal samples were collected and tested for HEV RNA during 12 weeks.

Results: All the control rabbits were negative for anti-HEV antibodies and HEV RNA in samples of blood, urine and feces throughout the study. Fecal shedding of HEV RNA was detected in all experimental rabbits on the 7th and 14th days after inoculation. Three rabbits were permanently positive for HEV RNA in feces during 12 weeks of the study. Urine samples of two and four infected rabbits were positive for HEV RNA on the 7th and 14th days after inoculation respectively. HEV RNA was detected in urine samples of six rabbits during the study. No viremia was observed in experimental group of animals on the first and second weeks after inoculation. Viremia was detected in one infected rabbit on the third week of the experiment. During the study viremia was identified in four rabbits. Lethargy, diarrhea, and refusal to eat have been observed in six infected rabbits. One experimental rabbit died on the 9th day after inoculation. To identify the most diagnostically informative type of biological material, obtained from the infected rabbits during the 12 weeks, positive for HEV RNA results of blood, urine and feces samples were compared. The highest detectability of viral RNA was established in feces and urine samples, the smallest - in blood samples of infected animals (picture). The detection of HEV RNA in the urine samples was significantly different from the determination of the virus in blood.

[CHART]

Detection of HEV RNA in blood, urine and fecal samples of infected rabbits for 12 weeks

Conclusions: This study demonstrated that rabbits are good animal model for HEV investigation. Fecal shedding of HEV RNA during 12 weeks indicates the propensity to chronic hepatitis E. The significance of urine test for hepatitis E diagnosis was demonstrated.

