

Serological evidence of hepatitis E virus infection in pigs and jaundice among pig handlers in Bangladesh - DTU Orbit (09/11/2017)

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Hepatitis E virus (HEV) is the most common cause of viral hepatitis in humans. Pigs may act as a reservoir of HEV, and pig handlers were frequently identified with a higher prevalence of antibodies to HEV. The objectives of this study were to identify evidence of HEV infection in pigs and compare the history of jaundice between pig handlers and people not exposed to pigs and pork. Blood and faecal samples were collected from 100 pigs derived from three slaughterhouses in the Gazipur district of Bangladesh from January to June, 2011. We also interviewed 200 pig handlers and 250 non-exposed people who did not eat pork or handled pigs in the past 2 years. We tested the pig sera for HEV-specific antibodies using a competitive ELISA and pig faecal samples for HEV RNA using real-time RT-PCR. Of 100 pig sera, 82% (n = 82) had detectable antibody against HEV. Of the 200 pig handlers, 28% (56/200) demonstrated jaundice within the past 2 years, whereas only 17% (43/250) of controls had a history of jaundice (p < .05). Compared to non-exposed people, those who slaughtered pigs (31% versus 15%, p < .001), reared pigs (37% versus 20%, p < .001), butchered pigs (35% versus 19%, p < .001) or involved in pork transportation (28% versus 13%, p < .001) were more likely to be affected with jaundice in the preceding 2 years. In multivariate logistic regression analysis, exposure to pigs (odds ratio [OR]: 2.2, 95% CI: 1.2–3.9) and age (OR: 0.97, 95% CI: 0.95–0.99) was significantly associated with jaundice in the past 2 years. Pigs in Bangladesh demonstrated evidence of HEV infection, and a history of jaundice was significantly more frequent in pig handlers. Identifying and genotyping HEV in pigs and pig handlers may provide further evidence of the pig's role in zoonotic HEV transmission in Bangladesh.

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Authors: Haider, N. (Intern), Khan, M. S. U. (Ekstern), Hossain, M. B. (Ekstern), Sazzad, H. M. S. (Ekstern), Rahman, M. Z. (Ekstern), Ahmed, F. (Ekstern), Zeidner, N. S. (Ekstern)

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