

Hanta Virus Infection in a Child and Sequelae

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Abstract : There is no reported Hanta Seoul virus infection in children in the UK so far, making it quite challenging for clinicians in diagnosing, predicting and prognosticating the outcome of the infection to patients and parents. We report a case of a ten-year-old girl who presented with pyrexia associated with headache, photophobia and abdominal pain. The family had recently acquired two pet rats six weeks ago. She appeared flushed with peri-oral pallor, coated the strawberry tongue, inflamed tonsils and bilateral cervical lymphadenopathy. Her liver and splenic edges were palpable. Investigations showed that she was thrombocytopenic with deranged renal and liver functions. An ultrasound abdomen demonstrated a mildly enlarged spleen, peripancreatic lymph node and an acalculous cholecystitis. In view of her clinical presentation, a diagnosis of leptospirosis was considered and she was commenced on intravenous benzylpenicillin. The following day she became oliguric, developed significant proteinuria and her renal function deteriorated. Following conservative management, her urine output gradually improved along with her renal function, proteinuria and thrombocytopenia. Serology for leptospirosis and various other viruses were negative. Following discussion with the Rare and Imported Pathogens Laboratory at Porton hanta virus serology was requested and found to be strongly positive for Seoul hanta virus. Following discharge she developed palpitations, fatigue, severe headache and cognitive difficulties including memory loss and difficulties in spelling, reading and mathematics. Extensive investigations including ECG, MRI brain and CSF studies were performed and revealed no significant abnormalities. Since 2012, there have been six cases of acute kidney injury due to Hantavirus infection in the UK. Two cases were from the Humber region and were exposure to wild rats and the other four were exposed to specially bred pet fancy rats. Hanta virus infections can cause mild flu like symptoms but two clinical syndromes are associated with severe disease including haemorrhagic fever with renal syndrome, which may be associated with thrombocytopenia and Hantavirus cardiopulmonary syndrome. Neuropsychological impairments reported following hantavirus pulmonary syndrome and following Puumala virus infection have been reported. Minor white matter lesions were found in about half of the patients investigated with MRI brain. Seoul virus has a global distribution owing to the dispersal of its carrier host rats, through global trade. Several ports in the region could explain the possible establishment of Seoul virus in local populations of rats in the Yorkshire and Humber region. The risk of infection for occupationally exposed groups is 1-3% compared to 32.9% for specialist pet rat owners. The report highlight's the importance of routinely asking about pets in the family. We hope to raise awareness of the emergence of hantavirus infection in the UK, particularly in the Yorkshire and Humber region. Clinicians should consider hantavirus infection as a potential cause of febrile illness causing renal impairment in children. Awareness of the possible neuro-cognitive sequelae would help the clinicians offer appropriate information and support to children and their families. Contacting Rare and Imported Pathogens Laboratory at Porton is a useful resource for clinicians in UK when they consider unusual infections.

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