



ABSTRACT

Hantavirus disease is an emerging zoonotic viral infection with high fatality. The causative agent, hantavirus is a rodent borne RNA virus belonging to the family *Bunyaviridae*. Transmission is by inhalation of virus via aerosols generated virus contaminated rodent excreta. There are two major clinical forms of hantavirus infections, haemorrhagic fever with renal syndrome (HFRS) and hantavirus pulmonary syndrome (HPS). Clinical features of HFRS, often mimic leptospirosis. Large number of cases of leptospirosis like illness is reported in Sri Lanka annually during paddy cultivation and harvesting seasons. Although there was serological evidence of hantavirus infection among humans, diagnostic facilities are not available.

This study was conducted to establish a reliable test to diagnose the hantavirus infection. Genus specific polymerase chain reaction (PCR) was established, evaluated and optimized. Established PCR assay was able to detect wide range of hantavirus species at minimum detection limit of 70 copies/ reaction.

Molecular diagnosis of hantavirus infection among suspected patients with HFRS was carried out in three hospitals which are serving Colombo and Gampaha districts. Study was conducted from 01st of January 2011 to 31st of April 2011.

Study population was selected according to case definition of HFRS and 61 adult patients were recruited in to this study.

Hantavirus reverse transcriptase polymerase chain reaction (RT-PCR) was performed on collected samples after extraction of RNA by TRIzol[®] method. Of 61 tested samples, 05 were positive for hantavirus genome.

Of the 53 samples tested, 06 samples were positive for hantavirus IgM by in-house ELISA. Five of the IgM positive samples were positive for hantavirus genome by RT-PCR.

All patients with hantavirus infection had clinical and biochemical features of liver involvement. All had a history of exposure to paddy fields within 3 weeks prior to onset of the illness.

Epidemiology and natural host/ hosts of hantavirus infections in Sri Lanka still remain unknown. Further studies are needed to get the full picture of hantavirus infection in the country.