

Possibility of nosocomial person-to-person transmission of hemorrhagic fever with renal syndrome

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Background/Aims: This is an investigational study performed to identify nosocomial transmission of Hantaan virus among healthcare workers (HCWs) after contact with an index patient with confirmed hemorrhagic fever with renal syndrome. **Methods:** After the index patient died, we conducted an epidemiological investigation for all HCWs who had close contact with the index patient and displayed symptoms compatible with hemorrhagic fever with renal syndrome. Affected HCWs were instructed to visit the medical center for examination and laboratory data including IgG titer for Hantaan virus were collected. **Results:** Among six HCWs who had contact with the index patient and complained of febrile illness, none of them were confirmed to have hemorrhagic fever with renal syndrome. Two HCWs who showed elevated IgG titer against Hantaan virus failed to use adequate personal protective equipment. **Conclusions:** Although we found no evidence of Hantaan virus person-to-person transmission to HCWs, universal precautions and personal protective equipment is recommended for protection against hemorrhagic fever with renal syndrome because of the possibility of transmission.

Table 1. Clinical, laboratory and serological findings for six healthcare workers who had symptoms.

	HCW 1.	HCW 2.	HCW 3.	HCW 4.	HCW 5.	HCW 6.
Profession	Doctor	Doctor	Nurse (GW)	Nurse (ICU)	Nurse (ICU)	Nurse (ICU)
Exposure event	Outpatient clinic	CPR	CPR	Endotracheal suction, CPR	Endotracheal suction	Endotracheal suction
Symptoms						
Fever	No	No	No	Yes	No	Yes
Myalgia	Yes	Yes	Yes	Yes	No	Yes
Headache	No	No	No	No	Yes	No
Laboratory data						
WBC (mm ³)	8,240	10,710	9,790	5,610	ND	8,630
Platelet (x10 ³ /mm ³)	317	225	233	213	ND	294
PPE use						
Mask	Yes	No	No	Yes	Yes	Yes
Glove	No	No	No	Yes	Yes	Yes
Facial shield or goggle	No	No	No	No	No	No
IFA (IgG) titer						
Acute	<1:32	1:256	1:32	<1:32	<1:32	<1:32
Convalescence	<1:32	<1:32	<1:32	<1:32	ND	<1:32

HCW, healthcare worker; GW, general ward; ICU, intensive care unit; CPR, cardiopulmonary resuscitation; PPE, personal protective equipment; WBC, white blood cell; IFA, immunofluorescence assay.