

## Hemorrhagic fever with renal syndrome (HFRS) manifested as like acute abdomen

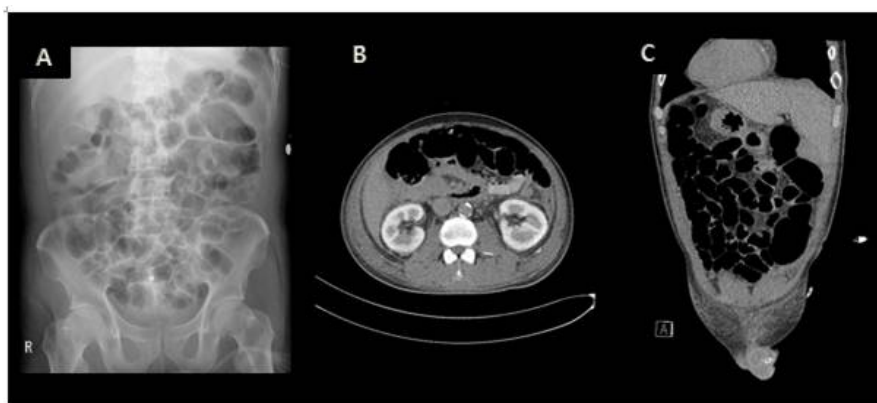
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**Introduction:** Hemorrhagic fever with renal syndrome (HFRS) is an acute febrile illness caused by Eurasian hantaviruses and characterized by renal insufficiency, hemorrhage, thrombocytopenia, and shock. HFRS can cause multiple organ function damage, which is a systemic disease, mainly to kidney damage. In the early of this disease, abdominal pain was always the most outstanding, easily misdiagnosed as acute cholecystitis, acute gastrointestinal perforation, acute intestinal obstruction etc. Sometimes, because of very severe abdominal pain, many patients are admitted on a surgical ward. The main reasons of misdiagnosis: Physicians are not familiar with HFRS. This case shows that it is important to distinguish HFRS with abdominal pain from surgical abdomen.

**Case Report:** In January 2019, a 62-year-old man visited the emergency room with complaints of severe abdominal pain, nausea and vomiting. Concomitant symptoms were fever, myalgia, and oliguria. He had diffuse tenderness and rebound tenderness in the entire abdomen. On auscultation, the bowel sound was decreased. Vital signs on admission were relatively stable. Laboratory findings were as follows. (Table A) Figure A) Simple abdomen showed increased haziness in paracolic gutter and dilatation of small and large bowel. Figure B, C) CT demonstrated edema of abdominal wall and fluid collection with high density in abdominal cavity, which could not rule out surgical abdomen. We consulted to general surgeon for abdominal problem, and he replied the follow-up study of clinical progress was needed. Serum creatinine rose on the day 3 to 7.2 mg/dL, and the patient was started on hemodialysis. The serologic test showed positive result for Hantaan virus. Two weeks after hemodialysis, urine output gradually increased, and became polyuric. The patient was discharged after 4 weeks of hospitalization when all laboratory findings and symptoms came back to normal.

**Discussion:** Abdominal pain is still one of the important manifestation of Hemorrhagic fever with renal syndrome (HFRS). Timely hemodialysis treatment is effective. Therefore, testing for hantaviruses should be recommended in the workup of abdominal pain in endemic areas.



Lab Date	Value	Reference value
Hemoglobin	14.6 g/dL	13 – 18 g/dL
White blood cells	$20.5 \times 10^3 / \mu\text{L}$	$4.8 - 10.8 \times 10^3 / \mu\text{L}$
Platelet	$27 \times 10^3 / \mu\text{L}$	$130 - 450 \times 10^3 / \mu\text{L}$
BUN	75 mg/dL	8 – 23 mg/dL
Creatinine	6.3 mg/dL	0.7 – 1.7 mg/dL
Aspartate transaminase	76 IU/L	12 – 33 IU/L
Alanine transaminase	70 IU/L	5– 35 IU/L
Prothrombin time	0.91	0.88 – 1.19 INR
Partial thromboplastin time	33.3 seconds	24.8 – 36.1 seconds
Fibrinogen	455 mg/dL	191 – 471 mg/dL
Fibrin degradation products	42.5 $\mu\text{g/mL}$	< 2.0 $\mu\text{g/mL}$
D-dimer	14.4 mg/L	< 0.49 mg/dL
Urinalysis protein	+4	Negative
Urinalysis erythrocyte	30 erythrocytes/HPF	0-5 / HPF