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Hemorrhagic fever with renal syndrome

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Introduction: Hemorrhagic fever with renal syndrome (HFRS) is a rodent-borne zoonosis, caused by members of the virus family *Bunyaviridae*, genus *Hantavirus*. The subtype Dobrava is the most frequent in Albania and Balkan region and is the cause of severe HFRS in this area. Carefully managed supportive care is critical to recovery from severe disease.

Aim: The aim of this study was to describe epidemiological and clinical patterns of HFRS in patients diagnosed from 2011 to 2015 and the corresponding stage of the renal function impairment.

Methods: We analyzed 31 patients in a prospective study. Data represent geographical spread, laboratory and clinical patterns. Renal involvement was defined according the RIFLE and Acute Kidney Injury Network (AKIN) classification. The diagnosis has been confirmed by serological test performed with ELISA.

Results: All patients were admitted in a tertiary hospital with HFRS. 29 patients (93.5%) were male and 2 patients (6.5%) female. The mean age was 39.2 years old. 14 patients (45.2%) were from Northeast Albania. The occupational distribution was: Farmer 11 patients (35.4%), shepherd 8 patients (25.8%), beekeeper 4 patients (12.9%), woodcutter 4 patients (12.9%), visitor 4 patients (12.9%). The disease outbreaks occurred during the period June-July. Mean hospital stay was 15.6 days. The main signs and symptoms presented at the moment of admission were: Fever in 31 cases (100%), malaise 29 patients (93.5%), headache 24 patients (77.4%), myalgia 21 patients (67.7%), abdominal pain 22 patients (71%), back pain 19 patients (61.3%), vomiting 19 patients (61.3%), diarrhea 4 patients (12.9%), anorexia 14 patients (45.2%) and low urine output 25 patients (80.6%). Mean systolic blood pressure at admission was 110.13 mmHg (160-74) and diastolic blood pressure 69.55 mmHg (40-90). The mean values of laboratory tests on admission were: Urea 107.2- \pm 71.6 mg/dl, creatinine 2.79 \pm 1.8 mg/dl, K 3.61 \pm 0.4 mEq/L, hemoglobin 14.94 \pm 2.5 g/dl, hematocrit 43.79 \pm 6.2%, white blood count 10122 \pm 5030/mm3, platelets count 48619.4 \pm 28275.1/mm3, AST 102.4 \pm 86.6 IU/L, ALT 93 \pm 104.2 IU/L, CK 587.5 \pm 634 IU/L, LDH 458 \pm 220.9 IU/L. Serological assay (ELISA) detected positive *IgM* and *IgG* anti-Hantavirus. Virus serotype, detected by the real time one step reverse transcriptase polymerase chain reaction (RT-PCR) was DOBRAVA. Stage of acute renal injury resulted: R (6.5%), I (12.9%) and F (80.6%) according to RIFLE criteria and 1 (12.9), 2 (16.1%), 3 (71%) according to AKIN classification. Dialysis was required for 10 patients (32.2%). Mortality rate was 9.67% (3 patients).

Conclusion: Hemorrhagic fever is a rare disease in Albania but with periodic outbreaks. Albanian northeast area is endemic. Male gender, specifically farmers and shepherds, represent the majority of people diagnosed with this condition. The important finding in this cohort is the high prevalence of significant renal function impairment.

Biography

Rista Elvana is currently pursuing her PhD from the University of Tirana, School of Medicine. She was graduated with a Bachelor's and a Master's degree from the School of Medicine at the same university. She is currently employed as a Nephrologist in Hygeia Hospital in Tirana. She has published about 10 papers with health related professional magazines and has been serving as a Member of ERA-EDTA since 5 years.

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