



Crimean Congo hemorrhagic fever: a brief report regarding kidney involvement

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In patients with CCHF, especially children, hematuria, proteinuria, oliguria and azotemia could have been found by urinalysis. Moreover, because of the fact that proteinuria and urine neutrophil gelatinase-associated lipocalin (uNGAL) levels could increase in children with CCHF; thus, monitoring of renal involvement related to CCHF by measurement of urine total protein and uNGAL is recommended.

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Crimean Congo hemorrhagic fever (CCHF) is an acute hemorrhagic febrile viral disease, which is transmitted by a virus from the Arbovirus family of the Bunyaviridae family and the type of norovirus. This type of disease is common between the human and veterans emerging in human sporadically and/or epidemically in some cases (1). This disease was considered as one of the most important hemorrhagic viral fevers in human owing to the high mortality ranging from 10% to 40% as well as possible nosocomial transmission (2). The aforementioned disease was endemically broke out in Africa, Asia, Middle-East, and Eastern Europe. Some 914 patients with CCHF were reported in 2017 with the rate of 106 subjects in India (3).

The most frequency of CCHF was reported in Somalia, Sudan, India, Pakistan, Iran, Iraq, and Egypt although this disease emerges right across the world (4). The disease was first diagnosed in Crimea, Russia in 1994. Some frequencies of the disease were demonstrated in the aforementioned countries with the highest rate in Djibouti being 12000 patients from 1991 to 1992 (1,5). The rate of incidence in some countries varies in different seasons

being endemic in Iran, Russia, Iraq, Turkey, Afghanistan, and Pakistan. Iran has common borders with the countries mentioned (6,7). CCHF was accounted as a advent disease in Iran firstly reported in Chahar-Mahal and Bakhtiari province, Southwest of Iran in 1999. Afterwards, this type of disease was reported in other regions in Iran as a pivotal health issue (1,8).

Nowadays, a fatal rate of 17.6% was reported in some 26 provinces of Iran with the highest incidence and mortality rates in Sistan and Baluchestan, Khorasan and Khozestan provinces (1,9). An ascending trend of CCHF was reported in Iran ranged from 0.17% to 0.46% from 2009 to 2015, but except for 2010. Increasing the temperature and humidity of the air, as well as the presence of hard-tailed mites in the area of hyaloma and carriers of the disease, increase the incidence of disease (4).

The groups under the risks are including veterinarians, butchers, animals' centers personnel significantly contacting with blood, and animals' tissues (1). The most common pathways of transmission of the disease were reported as contacting with blood, animals' excretions and polluted tissues, abortions, animal's birth discharge,

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human contacting with an infected, tick biting and/or crushing contaminated tick on the skin surface (3).

The most common symptoms of the aforementioned disease were indicated as the sudden onset similar to flu, together with fever, myalgia, dizziness, neck pain and rigidity, back pain, headache, photophobia. Some early symptoms of the disease are including nausea, vomiting and sore throat together with diarrhea and abdominal pain. The diagnosis of disease was consolidated on epidemiologic assessments and clinical manifestations via determining anti-CCHF specific antibody. These antibodies are of IgM and IgG measured using ELISA (2). Crimean-Congo hemorrhagic fever (CCHF), known also as Asian Ebola, is a fatal viral disease with substantial increase across the world in recent years (10) with the mortality rate of 10% to 80% in patients (11) with emphasizing higher mortality rates of CCHF in the renal failure patients (12). It is recommended that CCHF should be considered in differential diagnosis of renal failure, especially in areas with an endemic situation of CCHF infection (13). In addition, patients with CCHF, especially children, hematuria, proteinuria, oliguria and azotemia could have been found by urinalysis (14). Moreover, because of the fact that proteinuria and urine neutrophil gelatinase-associated lipocalin (uNGAL) levels could increase in children with CCHF; thus, monitoring of renal involvement related to CCHF by measurement of urine total protein and uNGAL is recommended (15). The incidence rate of the disease could be declined and the subjects can be prevented infecting by performing prophylactic methods of contacting with livestock and contaminated livestock products, improvement of the environment and the removal of the tick, consumption of meat products under veterinary centers and health standards, all stages from livestock to distribution and consumption of livestock products (4). Patients can also be identified with rapid diagnosis of clinical symptoms and laboratory serologic tests; moreover, by isolating the sufferer and starting treatment, it will prevent other people suffering or death (4,16).

The basis for the prevention of common communicable diseases between humans and animals is the prevention of contact between the infected animal and its products with humans or the degradation of the disease (3,6,9). Given the increasing trend of displacement of people in the world, as well as the possibility of transmitting various types of contagious diseases by carriers and patients, training health tips on risk groups and health personnel to prevent the congenital hemorrhagic fever is very necessary.

Author's contribution

All authors drafted the first version. ZKH, SH K, MS, MA and ID edited the final draft. All authors reviewed, commented and approved the manuscript.

Conflicts of interest

The authors declare no conflict of interest.

Ethical considerations

Ethical issues (including plagiarism, data fabrication, double publication) have been completely observed by the authors.

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