

CASE REPORT

CRIMEAN-CONGO HEMORRHAGIC FEVER: CASE SERIES FROM A MEDICAL CENTER IN GOLESTAN PROVINCE, NORTHEAST OF IRAN (2004-2006)

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ABSTRACT

Crimean-Congo hemorrhagic fever (CCHF) is a widely distributed lethal disease, worldwide. Humans are usually infected with CCHF virus through a tick bite or close contact with viral contaminated tissues or with blood of domestic animals or of infected patients. The present study reports six cases of CCHF, who were in contact with both infected tissues and blood from sheep. In some regions like Golestan province (North of Iran), clinician suspicion may have an important role in early diagnosis and treatment of the disease. Conservative therapy (intensive monitoring) and prescription of antiviral medication (Ribavirin) accompanied with corticosteroids, was useful at the early stage of CCHF.

Key words: Crimean-congo, crimean-congo hemorrhagic fever, hemorrhagic fever virus, humans, Iran

Crimean-Congo hemorrhagic fever (CCHF) is a lethal zoonotic disease. It is caused by an RNA virus that is widely distributed in wild and domestic mammals, birds and ticks.^[1-3] CCHF was first observed in Crimea in 1944 by Russian scientists and was first isolated in Africa (Congo), from a febrile patient in Zaire in 1956.^[4-6]

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The virus has been classified as a Nairovirus genus from the family of Bunyaviridae.^[3] In Iran, Hyalomma species probably plays the main role in transmitting the infection from animals to humans.^[7]

The disease is usually transmitted to man following a tick bite or through contact with the blood of an infected patient or blood-contaminated specimens. The incubation period of CCHF depends on the method of transmission. It can extend from 2 up to 7 days following a tick bite or 10 up to 14 days after blood transfusion.^[1,8] The onset of the illness is sudden, with fever, chills, severe

muscular pains, headache, vomiting and pain in the epigastria and lumbar regions. A hemorrhagic state develops from the third to fifth days and manifests with petechiae, purpura, epistaxis, hemoptysis, hematemesis, melena and hematuria. In patients who recover, body temperature decreases within the 10th and 20th days and bleeding stops; however, convalescence can last up to 4 weeks or longer. Death occurs from massive hemorrhage and cardiac arrest, from the 7th to 9th days after onset of the illness.^[1,8] The mortality rate of CCHF reported, is up to 30% in some studies.^[1] Several studies have been done concerning probable risk factors like demographic features and the vocation states. It seems that butchers, veterinarians and shepherders are at a special risk due to probable contamination with infected tissues and blood from animals.^[3]

Diagnosis is based on epidemiologic studies and clinical presentation. The diagnosis may be confirmed in a reference laboratory, by detection of a rise in specific IgG or IgM titers using the ELISA technique.^[1]

Meticulous patient care is the mainstay of treatment. In some cases, intensive monitoring and blood transfusion are needed. Prescription of antiviral medication such as ribavirin, has been beneficial.^[1]

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Six cases were admitted to the regional hospital consequently, with similar presentations of a hemorrhagic state. Their age range was from 13 to 29 years. Two of them were students; two were butchers, one

was a driver and another, a housekeeper. All cases presented with sudden onset of fever, skin eruptions and petechia, purpura, epistaxia and generalized pain (myalgia).

Bloody otorrhea and severe nausea and vomiting were seen in the 29-years-old driver, only.

Gastrointestinal bleeding and hematuria occurred in the butchers. Genital bleeding occurred in the housekeeper.

Leukopenia and thrombocytopenia were the two common lab findings that were seen in all cases. A scanty rise in hepatic enzymes (ALT/AST) was reported generally.

All cases had a positive past history of close contact with domestics. Similar, but milder features were reported in the relatives.

Serological (IgG and IgM using ELISA method) and virological assessments were positive (confirmed in Iran and Senegal Pasteur Institutes, Senegal) in all patients. Conservative therapy along with recommended WHO drug for CCHF (ribavirin), accompanied with corticosteroids was initiated. FFP, whole blood and platelets were transfused to compensate the severe bleeding state.

They were cured and discharged after a successful conservative therapy, plus ribavirin and corticosteroids.

DISCUSSION

CCHF virus is widely distributed in

domestics, wild animals and ticks. It is confirmed that one of the major roots of the transmission is the tick bite,^[1-3] but some other reports showed that close contact with sheep had the main role in the transmission.^[3]

According to the clinical response and cure seen in most of the patients who were treated with antiviral agents such as ribavirin accompanied with corticosteroids, it can be concluded that this treatment can be considered as a good treatment protocol, if prescribed at the early stages. Thus, we suggest this method of treatment as a basic treatment protocol in the early stage of CCHF.

It should be noted that in this location, shepherding is one of the most usual jobs. Special attention should be paid to the prevention and control of the disease among residents of such regions.

Public awareness of CCHF is needed to fight against the disease. People who work with livestock or other animals in endemic areas like Iran, can take measures to protect themselves.

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