CASE REPORTS

CRIMEAN-CONGO HEMORRHAGIC FEVER (CCHF); A CASE REPORT

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ABSTRACT

Crimean Congo Hemorrhagic Fever (CCHF) one of the fatal viral infections has been described in around 30 countries around the world and is endemic in some parts of Pakistan. The fever is transmitted to humans by the bite of an infected tick either by direct contact with the blood or tissue via infected humans and livestock. We present here case of a 34-year-old Pak defense services officer who reported with nonspecific symptoms of high grade fever, myalgias and vomiting but rapidly deteriorated and developed bleeding diathesis. He was diagnosed to have CCHF and managed with Ribavirin, repeated transfusions and IV fluids with strict nursing barrier and use of Personal Protective Equipment (PPE). The patient recovered well.

Keywords: Crimean-Congo Hemorrhagic Fever, Pakistan, Ribavirin, Viral.

INTRODUCTION

The hemorrhagic viral fevers are varied group of illness, which are caused by families of five distinct ribonucleic acid (RNA) viruses i.e. Arenaviridae, Filoviridae, Bunyaviridae, Flaviviridae & Rhabdoviridae[1]. Crimean Congo Hemorrhagic Fever (CCHF) virus is a Bunyaviruses. In Pakistan its first case was reported in 1976 and afterwards an additional 14 cases were reported from 1976–2010[2]. Symptoms appear 2 to 7 days after bitten by a tick or 10 to 14 days after blood transfusion. The symptoms appear suddenly manifesting as fever, chills, vomiting, severe muscle pains and headache. From the 3rd to 5th day hemorrhagic symptoms and signs appear which are shown as petechiae, epistaxis, purpura, hemoptysis, hematemesis, melena and hematuria. Fever progresses rapidly and is fatal in about 30% of cases. It takes ten days for recovery and occurs with defervescence and improved coagulation profile and hematological symptoms. But convalescent phase may last up to 4 weeks or even longer. Death mostly occurs due to hematological cause which results in massive bleeding or hemorrhage and cardiac arrest[3]. CCHF is an important health issue due to its wide potential to cause outbreaks and epidemics, is distributed in wide geographical areas and above all it's highly fatal in humans. In addition it lacks any vaccine and treatment options are very limited and there is a fear that it. Thus this demands a quick and accurate diagnosis of CCHF and adequate treatment plus protection of health care staff. More delayed the diagnosis is made more is the chance of decreased efficacy of treatment and thus more mortality rate of disease. In Pakistan, reported case fatality of CCHF is found to be 15%[4] in addition fatality is greater in secondary than in primary cases[5]. Mostly transmission is nosocomial and is facilitated through improper sterilization of medical equipment and contamination of medical supplies. The risk of nosocomial transmission can be minimized by strict nursing barrier and personal protective equipment (PPE).

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CASE REPORT

A 34-year-old Pakistani male from Pakistan-Afghanistan border was referred with a 5-day history of remittent fever spiking upto 102°F with rigors and chills. Fever was associated with vomiting, epigastric pain and severe generalized pains. He was admitted to local hospital and started on symptomatic treatment. He soon developed hematemesis and a petechial rash on

lower limbs. His initial work up showed marked thrombocytopenia. Because of rapid progression of symptoms, patient was transferred to tertiary care hospital immediately. Meanwhile he also developed hematuria, bleeding from gums and passage of black tarry stools. Samples for Hanta virus, CCHF and dengue fever along with markers for DIC were sent and patient was further shifted to central tertiary care hospital at Rawalpindi. Here, arrangements for isolation, strict barrier nursing and use of PPE according to WHO guidelines were made prior to receiving patient. On arrival, he was toxic and febrile. He had petechiae on both legs. Epistaxis and gum bleed were evident on clinical exam. Systemic exam was unremarkable otherwise.

Extensive investigations were performed. Blood complete picture showed thrombocytopenia with a platelet count of 35 x 10^9 /L. Serum CK, ALT and LDH were raised. Urine RE showed hematuria. Hb was low, renal functions deranged and D dimers markedly raised. Malarial parasite, dengue NS1 antigen, and Leptospira antibodies were negative. PCR for Crimean Congo Hemorrhagic Fever came out to be positive.

A diagnosis of Crimean Congo Hemorrhagic Fever was thus made. Patient was kept in isolation with strict barrier nursing and was treated with I.V ribavirin which was administered at 1gm 6 hourly along with multiple transfusions of fresh frozen plasma and platelets. I.V fluids were also regularly given. Daily lab samples were taken and dispatched to laboratory in triple cover and lab staff as well as virologist were informed about the nature of the sample. After about 3 days of treatment the patient started improving. Epistaxis, gum bleed and hematemesis subsided. His blood counts, LFTs and RFTs started to improve. Viremia showed a declining trend on daily PCR and ultimately on 10th day of admission and 15th day of illness, PCR became negative. Platelet count also increased to 600 x 10^9/L. All other laboratory findings were also normalized. Now he was switched to oral ribavirin for next 6 days and was discharged on 20th day of admission.

DISCUSSION

The virus for CCHF was identified in 1967, in Uzbekistan which was similar to a virus found before hand in Congo in 1956, hence the virus was named as Crimean-Congo[6]. In Pakistan first case was reported in Abbottabad. And virus was first isolated from ticks in Changa-Manga forest near Lahore in the 1960s. Some cases have been reported from Baluchistan, Kashmir and Peshawar in different years. The outbreaks of CCHF are more common among professions likes hepherds, skin processors, abattoir workers, livestock handlers, veterinary personnel, butchers and jobs requiring personal contact with animals in any manner[7], when we compared this with our patient there was no such history of animal contact in our patient.

The first epidemic of CCHF occurred in Pakistan in 1976, and the index case manifests symptoms of abdominal pain and hematemesis, in hospital the patient had a laparotomy because he was considered as a case of duodenal ulcer perforation. Unknown of the virus the surgeon infected himself too and both the surgeon and the patient died[8]. A reported patient of CCHF in Iran presen-ted with signs and symptoms of fever, myalgia and hemorrhage. This patient was treated with ribavirin. The efficacy of Ribavirin was found to be 89% in patients with confirmed CCF and 70% in patients with suspected CCHF[9].

Pakistan had 14 outbreaks of CCHF from 1976 to 2005, each witnessed more than one mortality, secondary and tertiary cases were also reported in many outbreaks, and nosocomial spread was documented. The main causes of spread of CCHF were late presentation of patient, poor knowledge about disease, inadequate treatment and delayed preventive measures taken by health care staff. Between January and June, 2016, several cases of CCHF were reported in different parts of Pakistan and many deaths occurred.

CONFLICT OF INTEREST

This study has no conflict of interest to be declared by any author.

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