

# Successful Treatment of Congo-Crimean Hemorrhagic Fever Virus Infection with Ribavirin

Sir,

Congo-Crimean haemorrhagic fever (CCHF) is one of the viral haemorrhagic fevers (VHF) which has a case fatality rate ranging from 5-50%.<sup>1</sup> Pakistan is a high risk country to get an epidemic of CCHF, especially in the context of under-developed healthcare system, which is poorly equipped to deal with such a potentially fatal illness.<sup>2</sup>

Role of antivirals in treating this infection is controversial. Use of ribavirin to treat CCHF is not proven and its clinical efficacy is controversial. However, ribavirin is found to be safe and effective when started early in the course of illness.<sup>3</sup>

Here, we share our experience of treating CCHF with ribavirin. A 28-year, previously healthy, male was referred from Balochistan, to Combined Military Hospital (CMH), Karachi with four days' history of high grade intermittent fever, loose watery stools and vomiting. Physical examination revealed ill-looking conscious gentleman, mildly dehydrated, anicteric, with temperature of 101°F; pulse 110/min, and blood pressure (BP) of 100/70 mmHg. Rest of the physical examination was unremarkable. Initial reports showed haemoglobin (Hb) of 14.3 g/dL, total leukocyte count (TLC)  $4.6 \times 10^9/L$ ; platelets  $20 \times 10^9/L$ ; urea 8.8 mmol/L; creatinine 149  $\mu\text{mol/L}$ ; bilirubin 18  $\mu\text{mol/L}$ ; S alanine aminotransferase (ALT) 223U/L; prothrombin time, 18 sec (control 13 sec); partial thromboplastin time 43 sec (control 34 sec); fibrin degradation products 500 ng/ml (Normal <250 ng/ml). Peripheral blood film for malarial parasite and schistocytes was negative, dengue serology was negative. Blood culture did not show any bacterial growth.

The patient continued to experience high grade fever and started having epistaxis and hematemesis the next day. His platelet count dropped to  $15 \times 10^9/L$ . Considering the clinical presentation, a provisional diagnosis of VHF was made. Strict barrier nursing care was initiated and blood sample was collected under all precautions and strict aseptic measures; and sent for polymerase chain reaction PCR for CCHF virus. At the same time (6<sup>th</sup> day of fever), the patient was started on antiviral treatment with oral ribavirin, 2 gm, loading dose followed by 4 gm daily in 4 divided doses.

Over the next 48 hours, he remained symptomatic with hemorrhagic manifestations. Subsequently, PCR for Congo-Crimean virus was found positive. During this period, the patient was rigorously hydrated and transfused with multiple units of fresh

frozen plasma and platelet concentrates. After 48 hours of starting antiviral treatment, the patient started responding and showed declining trend in fever. His bleeding manifestations also improved. Ribavirin dose was reduced to 2 gm/24 hours after four days of administration and stopped in ten days. He was discharged on 16<sup>th</sup> day after admission on complete recovery.

Our experience in this patient, with the use of oral ribavirin for the treatment of severe illness, is quite encouraging. It appears that this drug is effective against the viral fever; especially, when started within one week of start of the illness. Although this patient did not show any untoward side effect of the drug; however, high doses may result in adverse effects, especially anemia. Further studies, especially randomly controlled trials, are required to establish the role of ribavirin in CCHF.<sup>4</sup>

## CONFLICT OF INTEREST:

The authors declared no conflict of interest.

## AUTHORS' CONTRIBUTION:

FI: Contributed to the conception, drafting the work, revised it critically and gave final approval of the version to be published; agreed to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

INS, MYR: Revised it critically and gave final approval of the version to be published; agreed to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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