

COVID-19 Presenting as Acute Hepatitis with Thrombocytopenia

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1. Abstract

Since December 2019, an emerging infectious disease named COVID-19 started to show up and became a pandemic to claim millions of lives until August, 2020. COVID-19 usually presents with respiratory manifestations, but atypical presentations indicates a potential diverse nature of the disease. Cases have been reported with isolated hepatitis or thrombocytopenia as COVID-19 presentation. But, no single case was reported so far with two different entities. Here, we have reported a case of COVID-19 with acute hepatitis along with thrombocytopenia.

2. Keywords: Infectious disease; Thrombocytopenia; Epidemiology

3. Introduction

In Bangladesh, the first COVID-19 case was reported on March 8, 2020 and first death was on March 18, 2020 by the Institute of Epidemiology, Disease Control and Research (IEDCR)[1]. As of July 22, 2020, the total number of confirmed COVID-19 cases was 213254 with total death 2751 and total recovered 117202 [2]. COVID-19 cases commonly presents as fever, shortness of breath and cough [3]. A combination of elevated liver biochemistry associated with thrombocytopenia on initial presentation of COVID-19 is not reported so far. Here, we have described a case report to aware physicians about the potential diverse nature of COVID-19.

4. Case Report

A 45-year-old man, a police officer with possible exposure to COVID-19 cases during duty was admitted in a corona dedicated tertiary hospital in Bangladesh with a 7-day history of fever with dry cough and a 1-day history of abdominal pain. He denied any shortness of breath, chest pain, vomiting or diarrhoea. He was a known case of hypertension, non-diabetic and was healthy. He had no previous history of jaundice, hematological disorder or autoimmune diseases. He used to take Olmesartan and amlodipine combination (5/20) once daily as regular medication.

On presentation, he looked ill, conscious, well-oriented, not anemic, non-icteric, pulse - 86/min, BP - 110/70, temperature - 100°F, respiratory rate - 20/min, SPO2 - 95% in room air. He had no superficial bleeding manifestation (petechiae, purpura). His lungs and abdomen examination was normal. Abdomen was non tender with no hepatomegaly or splenomegaly and there was no stigmata of chronic liver disease.

His initial laboratory results were as follow: Hb - 14.gm/dl, TC - 9080/cumm, RBC - 4.8 m/μl, platelet count 76000/cumm, neutrophil - 71%, lymphocyte - 21%, ESR-12 mm in 1st Hour, Urine R/M/E - normal. Blood urea, serum creatinine, electrolytes were normal. CRP - 0.94 mg/dl, S. albumin - 3.1 g/dl, RBS - 7.1 mmol/l, S. amylase - 98 U/L, S. lipase - 267 U/L, Lactate - 14.4 mg/dl, D dimer - 0.10 μg/ml (N:<0.5 μg/ml), S. Ferritin - 353.3 ng/ml, no growth in blood culture. His chest radiological imaging was unremarkable (Figure 1), RT-PCR for SARS-CoV-2 (COVID-19) was positive from nasopharyngeal sample.

His liver function tests revealed SGPT - 831 U/L, SGOT - 258 U/L, S. Bilirubin - 1.2 mg/dl, alkaline phosphatase - 143 U/L, INR - 1.08. USG of whole abdomen and CT abdomen was normal (Figure 2). His serological testing for Hepatitis A, B, C and E were negative. As his liver function test was raised, we asked him about recent travel, drug and herbal use, alcoholic intake, unprotected sexual intercourse, or recent antibiotic intake with no significant yield (Figure 1 and 2).

He was on symptomatic and supportive treatment and he was doing well. No antiviral was given. Low molecular weight heparin was not started considering his low platelet count and clear chest radiograph. His vitals were monitored routinely including SPO2 and he was stable clinically. His platelet count started to improve in two days after admission and raised to 100000/cumm. His LFT also improved after four days reaching to SGPT 456 U/L and SGOT 152U/L. On subsequent monitoring his LFT and platelet count improved further and finally RT-PCR for COVID-19 became negative after eight days of hospital admission and he was discharged with advice for followup.



Figure 1: Normal chest radiological imaging



Figure 2: Normal Ct scans of abdomen

5. Discussion

In our observation, in a high volume COVID-19 dedicated hospital like our institution, we got cases that presented with fever, cough and breathing difficulties, but involvement of liver was not common. In our case, we only got elevated liver enzymes but S. bilirubin was normal. Also thrombocytopenia fit with with chronic liver disease as hepatic thrombopoietin production compromised, but thrombocytopenia is not common in acute hepatitis as in this case.

In this manuscript, we report a case of RT-PCR positive COVID-19 which presented with no pulmonary involvement, rather with transient thrombocytopenia with hepatitis, which was not expected. Here, the mechanism of thrombocytopenia on the background of acute viral hepatitis is believed to be immune mediated. We could not perform the antiplatelet antibody test to confirm it. COVID-19

may increase levels of auto antibodies and immune complexes, resulting in specific destruction of platelets by the immune system [4]. We recommend further studies to determine the spectrum for liver function test abnormalities in COVID-19.

6. Acknowledgement

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