

COVID-19 WITH ACUTE HEPATITIS AS AN INITIAL PRESENTATION: A CASE REPORT**Dr. Pyntyllilang Sanmiet*, Dr. Isaac Shira and Dr. Larihundashisha Wanniang**

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ABSTRACT

The novel corona virus infection named as COVID-19 that mainly affects respiratory system also affects multiple organs including the liver. The main host receptor for SARS-CoV2, angiotensin-converting enzyme 2(ACE2) is highly expressed in cholangiocytes in the endothelial layer of small blood vessels. The most common symptoms are fever, cough, fatigue, shortness of breath, myalgia, sore throat, diarrhoea, loss of smell and taste etc. We are presenting a 40yr old female with history of pain and discomfort in the upper right side of the abdomen with nausea and vomiting and decreased appetite. The patient was a known case of hypothyroidism and had received her 1st dose of covid vaccine. She was diagnosed as Covid-19 infection with Acute Hepatitis by laboratory findings. She was treated as per Covid protocol with special reference to liver function test findings and was discharged after becoming hemodynamically stable with improvement in liver function test results.

KEYWORDS: COVID-19, COVID-19 Vaccines, Liver injury in COVID-19 infection.**INTRODUCTION**

An outbreak of COVID 19 caused by SARS-COV2 had started in December 2019 in the province of China and has rapidly become a worldwide pandemic affecting hundreds of thousands of people and causing deaths of many.^{[1][2]}

SARS-COV2 mainly affects respiratory system. Patients can experience a range of clinical manifestations from no symptoms to critical illness. The common symptoms of COVID-19 are fever, non-productive cough, fatigue, dyspnoea, expectoration, myalgia, rhinorrhoea, sore throat, diarrhoea, loss of smell and taste etc. According to illness severity, the infection can be grouped into mild, moderate and severe categories.^{[3][4]}

In SARS-CoV2 infection, multiple organs affecting the liver, kidneys and heart are reported. Most studies suggest that mild derangements of liver function may be experienced by most COVID-19 patients but significant liver injury in initial stage is not common.^[1]

In India, COVID-19 vaccination programme was started from January where initially was given to the health care workers, then Frontline workers and the citizens of age-appropriate categories and with co-morbidities.

History and Examination

A case of 40year old female presented in the emergency department with complaints of pain and discomfort in upper right side of abdomen with nausea and one episode

of vomiting and decreased appetite for 4 days. She had no history of cough, shortness of breath, diarrhoea. She is a known case of hypothyroidism and is on medical treatment. She had received her Covid vaccine 1st dose 12 days before her date of admission to the hospital.

On examination, her temperature was 98.F, Oxygen saturation – 95% at room air. On abdomen palpation, tenderness was present in right upper quadrant and other systemic examination were within normal limits.

Laboratory were as follows

RTPCR for SARS COV2 was tested positive on admission.

Total leucocyte counts-13,300 cumm (N 4.5-11,000 cumm), ESR-40 mm/hour, Total protein- 8.7 g/dl (N >8.2 g/dl), albumin- 4.7 g/dl (N>5 g/dl), SGOT (Aspartate aminotransferase)- 113 IU/L (N>46 IU/L), SGPT (Alanine aminotransferase)- 864 IU/L (N>35 IU/L) , Alkaline phosphatase-94 IU/L (>126 IU/L), C-Reactive Protein- 21.22 mg/L (N>6 mg/L) , D Dimer- 976.69 ng/ml (N>500 ng/ml) , Sr. ferritin -28.44 ng/ml (N>280 ng/ml), PT/INR- 15.7 secs / 1.37 secs.

The following serological tests were performed and all tested negative: hepatitis A, B, C, E. Screening for autoimmune markers were negative.

Management

She was started on Tablet Ursodeoxycholic acid, Tablet Doxycycline and Lactic Acid Bacillus, Tablet Vitamin C,

Tablet Ivermectin, Injection Glutathione, Injection Vitamin K, and Injectable Antibiotics with Proton Pump Inhibitors.

During the patient's course of stay in the hospital, patient became symptomatically better with no other fresh complaints.

On the 4th day, the Liver Function Test was repeated and the following results obtained: Total Protein -7.3 g/dl, albumin – 4.0 g/dl, SGOT (Aspartate aminotransferase) – 41 IU/L, SGPT (Alanine aminotransferase) – 374 IU/L, Alkaline phosphatase-88 IU/L.

DISCUSSION

Abnormal liver function test in COVID-19 possibly be due to liver damage by SARS COV-2. Angiotensin-converting enzyme2 (ACE2), the functional host receptor for Severe Acute Respiratory Syndrome Coronavirus (SARS), has recently been demonstrated in mediating COVID-19 infection.^[5] ACE2 receptor is present on cholangiocytes of liver as well as in hepatocytes but its expression is higher in cholangiocytes (59.7%), than hepatocytes (2.6%), which may act as a potential route of entry for the virus in the liver leading to abnormal liver function.^[6]

Because all other causes of acute non icteric hepatitis were ruled out, it seems highly likely that our patient's Acute Hepatitis was caused by COVID-19 infection.

Efficacy of COVID vaccine depends on individual's responds and ability to produce a strong immune response and subsequently the vaccine regimens that grant protection may differ with individuals and may not be adequate for other individuals especially with co morbidities.^[7]

REFERENCE

1. Mukherjee K, Banerjee A, Bhattacharjee D, De S, Biswas A, Garai D, Chakraborty R, Manna A. Liver Function Status in COVID-19: An Indian Perspective. The Journal of the Association of Physicians of India, 2021 Feb 1; 69(2): 19-21.
2. Chen N, Zhou M, Dong X, Qu J, Gong F, Han Y, Qiu Y, Wang J, Liu Y, Wei Y, Yu T. Epidemiological and clinical characteristics of 99 cases of 2019 novel coronavirus pneumonia in Wuhan, China: a descriptive study. The lancet, 2020 Feb 15; 395(10223): 507-13.
3. Clinical Presentation of People with SARS-CoV-2 infection: Last updated: October 9,2020, CDC: <https://www.coronavirus.gov>.
4. Clinical management protocol: covid-19. Government of India Ministry of Health and Family Welfare Directorate General of Health Services (EMR Division). Version3(13.6.20).
5. Kaushik A, Wani SN, Baba MA, Agarwal AK. Prevalence of Abnormal Liver Function Tests in COVID-19 Patients at a Tertiary Care Centre. The Journal of the Association of Physicians of India, 2020 Aug 1; 68(8): 73-5.
6. Ghoda A, Ghoda M. Liver injury in COVID-19 infection: a systematic review. Cureus, 2020 Jul; 12(7).
7. Kshirsagar A M, Nadkar M, Menon G. Strategy to Improve Effectiveness of COVID 19 Vaccines and Medicines for Pre - exposure Prophylaxis in Persons with Older Age, Comorbidities, High Exposure. The Journal of the Association of Physicians of India, 2021 July; 6.