Acute Pancreatitis as a Complication of Moderate Covid-19

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\textbf{ABSTRACT}

Covid-19 mainly causes pulmonary disease, but involvement of other major systems – CVS, CNS, Renal along with gastrointestinal and hepatobiliary system has been reported. We present a case of acute pancreatitis in a 28-year-old patient with moderate covid-19 pneumonia. After excluding other medical and surgical causes for acute pancreatitis, SARS-COV-2 virus has been implicated to be the causative factor in this patient for acute pancreatitis. So, any patient presenting with acute pancreatitis during this pandemic needs to be screened for SARS-COV-2 and vice versa. Early recognition and medical management save the patient and protects surgeons from risk of viral transmission.

\textbf{Keywords:} Covid-19, SARS-COV-2, ARDS, Pancreatitis, Lipase, Amylase

\textsuperscript{*}See End Note for complete author details

\section*{Background}

SARS-COV-2 primarily causing covid-19 disease was first discovered in Wuhan, China\textsuperscript{1} in December 2019. It has since then affected more than 19 crores population all over the world. It primarily causes ARDS and pneumonia. However, extra pulmonary manifestations like severe nausea, diarrhoea, giddiness, palpitations, myalgias, polyarthralgias, seizures, paresis etc. have been reported depending upon the organs involved.\textsuperscript{2}

\section*{Case Report}

A 28-year-old female patient – Covid-19 positive by RTPCR came with history of fever of 1 week duration, cough and SOB of 3 days duration.

\textbf{Base line investigations:}

- CBP – Leukopenia
- TLC – 3000
- CRP – 50 mg/L
- D-Dimer – Normal
- IL-6 – Normal

At presentation, BP – 110/70 mmHg, PR – 80 per minute, SPO\textsubscript{2} – 90-91% at rest, at room air, Respiratory Rate – 35 to 40 per minute, CT Severity score – 15/25.

Patient was admitted and given standard treatment with remdesvir, IV – Methyl Prednisolone at 1 mg per Kg body weight, low molecular weight heparin and oxygen supplementation.

Patient was stable for 3 days and improved well with SPO\textsubscript{2} of 95% at room air. On day 4, patient complained of severe epi-gastric pain and central chest pain. IV Pantoprazole, IV Ondansetron and tramadol was given. ECG, 2D – Echo, Trop-T, LFT, RFT, serum amylase were done, reported to be normal. Patient was reassured and pain relieved.

Day 5: Patient had recurrent severe pain abdomen, radiating to the back with abdominal distension giddiness and decreased urine output. BP – 90/60 mmHg, PR- 130 per minute, SPO\textsubscript{2} – 92-93 % at room air. Patient was resuscitated immediately with IV fluids and symptomatic treatment. Repeat serum amylase – 500 units per Litre lipase, 1000 units per Litre (Figure 1). Contrast Enhanced CT – Abdomen was done which showed an atrophic Pancreas with diffuse fatty infiltration, peri pancreatic fat stranding, fluid collection anterior to the neck of pancreas. No necrosis, cal-
CT - was consistent with mild to moderate pancreatitis. Patient was started on NBM, IV meropenam, IV tramadol and ketorolac and adequate fluid management with I/O chart. There were no complications and the diagnosis of mild pancreatitis was made.

On day 8, patient improved symptomatically. Oral liquid diet was allowed. Repeat USG – Resolving Pancreatitis, lab parameters came to normal. Patient was discharged in stable condition on day 10.

This case underlines the importance of early recognition and management of extra pulmonary complications of Covid-19 viz myocarditis, arrhythmias, AKI, Pancreatitis, Acute liver failure, CVA’s GBS etc.

**Differential Diagnosis**

Acute gastritis was considered. Hypertriglyceridemia and other surgical causes like cholelithiasis, choledocholithiasis, pancreatic anomalies, previous history of pancreatitis, pancreatic cancer, substance abuse were ruled out. Drug history was reviewed to rule out drug induced pancreatitis.

**Discussion**

Acute Pancreatitis is an inflammatory condition of the exocrine pancreas. Several viruses have been implicated as the aetiology of acute pancreatitis. These include CVM, EBV, Hepatitis A – E viruses, herpes simplex, varicella zoster, Mumps, measles and Coxsackie viruses. Now SARS-COV-2 has been implicated. SARS-COV-2 enters host cells via its spike (s) protein which binds to (ACE 2) Angiotensin Converting Enzyme 2.

As ACE 2 expression is higher in pancreas, pancreatic injury is possible (Table 1). Mechanism of injury involves direct tissue damage, inflammation mediated damage and micro vascular injury - protease leakage and activation. Diagnosis requires 2 of 3 criteria, typical history, elevated serum amylase or lipase more than 3 times upper limit of normal for the lab reference range and suggestive imaging findings.

**Conclusion**

Acute pancreatitis can be a presentation of SARS-COV-2 infection. Early diagnosis and management are the key to successful outcomes. Further the data is required to determine the impact of virus on the pancreas and its pathophysiology.

**End Note**

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References


