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COVID-19 associated acute pancreatitis: A rare cause of acute abdomen

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Abstract

A 36 year old gentleman with no significant past medical history but had recent COVID-19 exposure presented to the hospital with the chief complaints of fever, shortness of breath, cough and pain abdomen. He was unfortunately found to SARS-CoV-2 positive. Laboratory findings showed S. amylase, S. lipase along with elevated inflammatory markers and unremarkable creatinine, bilirubin, cardiac troponin level. The cause of his elevated S. amylase and lipase was discovered to be due to COVID-19 and no evidence of other common etiology like gallstones, viral, bacterial infections, strenuous exercise, non-traumatic exertional etiology. He received aggressive fluid with antibiotics throughout his hospitalization course. His pain abdomen and breathlessness improved with treatment and he was found to maintain stable hemodynamics and was subsequently discharged home.

Keywords: Covid-19 novel corona viral pneumonitis acute pancreatitis

Introduction

Novel corona virus disease 2019 or COVID-19 is an emerging viral infection that originated from Wuhan, China. It had quickly spread across the globe with a few months with a significant morbidity and mortality. It is caused by a novel enveloped, positive-sense, single stranded RNA beta corona virus which is known as SARS-COV-2. Typical symptoms include fever, cough, dyspnoea, fatigue and myalgia [1]. It rarely can cause headache, diarrhea, hemoptysis [2]. However patient can present with atypical symptoms [3]. that makes the diagnosis challenging. We present a case of 36 year old gentleman who initially presented with high grade fever, dyspnoea, and severe pain abdomen but was discovered to have acute pancreatitis complicated by SARS-CoV-2 [4].

Case presentation

The patient is a 36 year old gentleman presented with the chief complaints of fever, dyspnoea, cough and pain abdomen since 4 days. He started to develop cough with occasional sputum production few days later. He also had severe pain abdomen and he decided to seek medical attention for his symptoms persisted for another few days without resolution. Past history was insignificant. He had exposure to COVID-19 infection. In emergency department (ED), his initial vital signs included temperature 102F, BP 118/70 mmHg, PR 104 bpm, RR 28 cpm, spO2 92% on room air. Physical examination revealed a well built and nourished conscious male who was oriented to time, place and person appeared to be lethargic, diaphoretic with bilateral basal crepts with epigastric tenderness. He had intact motor and sensation throughout the body, cardiac S1 and S2 sounds heard.

Pertinent laboratory findings include the following

TLC 5500 cells/mm³, PLC 132000 cells/mm³, S. amylase 1174 IU/L, S. lipase 465 IU/L, S. Total cholesterol 144 mg/dl, S. 255 mg/dl, LDH 856U/L, CRP 19.7 mg/dl, Ferritin 348.8 ng/ml and positive SARS-COV-2. Cardiac troponin, blood culture and sensitivity, coagulation panel, influenza, RSV target RNA were unremarkable. Chest X ray showing bilateral non homogenous opacity [5].

He was placed on continuous pulse oximeter and began treatment with Remdesvir, Meropenam and Linezolid, Dexona, Enoxaparin. He was also started with exclusive continuous fluid resuscitation due to NBM. Electrocardiogram 75 bpm, sinus rhythm. He was placed on airborne precaution. On day 2, 3 and 4 he remained to be febrile with temperature 100F while breathing comfortably with 2l of oxygen inhalation, he still complains of pain abdomen.

Furthermore his serum biomarkers were trended on a daily basis, they continued to be elevated. USG findings suggested of acute pancreatitis. There were concerns about SARS-COV-2 viral pancreatitis^[6], given extremely elevated lipase and amylase. He was fluid resuscitated continuously with adequate urine output, moreover he was treated with Inj Remdesevir 100mg in NS 250cc IV 24hourly over 60 minutes (5 days), Inj Tocilizumab 400mg in NS 100cc IV over 60 minutes, plasma therapy on day 4.

On day 5, 6 and 7 of hospitalization, he remain clinically stable on room air, afebrile and was able to ambulate in room air without dyspnoea, his epigastric pain improved.

On day 7, 8, 9 of hospitalization, he was afebrile and denied to be in respiratory distress. He continuous to receive fluid resuscitation and antibiotic therapy to prevent superimposed bacterial infection. S. amylase and S. lipase were on decreasing trend.

On day 10, 11 and 12 of hospitalization he was afebrile and denied to be in respiratory distress and pain abdomen relieved, inflammatory markers, LDH, CRP, ferritin level trending down. Patient was allowed to take a sip of water, antibiotics were discontinued and later allowed for liquid and semisolid diet on observation, following which we made sure that pain abdomen didn't reoccur back. 3 consecutive COVID report turn to be negative. He was advised to remain hydrated, after discharged subsequently on following day and follow up with his primary care physician. He was advised for plasma donation on follow up.

Discussion

SARS-COV-2 is responsible for the pandemic in present scenario which the world is facing. The life cycle consists of attachment to its receptor, penetration, uncoating, biosynthesis, assemble, maturation and release of viral particles which causes cell damage. Pancreatic cells highly express angiotensin-converting enzyme 2 (ACE2), the trans-membrane protein required for SARS-CoV-2 entry. Corona virus 19 primarily infects respiratory system leading to pneumonia, common cold, SARS, symptoms ranging from minimal to critical although other organs are involved. And hence here is the rare presentation SARS-COV-2 involving pancreas leading to acute pancreatitis which has recovered. Hence it is worth reporting.

Conclusion

Novel COVID-19 is one of the most discussed topics throughout the world as it is impacted the daily life of every individual across the globe. Clinical suspicion of pancreatitis should be a part of the clinical differential diagnosis if a patient presents with epigastric pain along with a SAR-COV-2 result. Aggressive fluid resuscitation, nil by mouth and daily S. amylase and S. lipase trending are important to treat and monitor the clinical progression as well as the response to treatment.

Human ethics

Consent was obtained by all participants in this study.

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