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Olgu Sunumu | Case Report

COVID-19 HASTASINDA AKALKÜLÖZ AKUT PANKREATİT; NADİR BİR OLGU SUNUMU

ACALCULOUS ACUTE PANCREATITIS IN COVID-19 PATIENT; A RARE CASE REPORT

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ÖZ

Dünya Sağlık Örgütü tarafından pandemi olarak ilan edilen COVID-19 enfeksiyonu birincil olarak solunum sistemini etkiliyor gibi görünse de gastrointestinal sistem semptomlarının önemi ve tanınması giderek artmaktadir. Olgumuzda COVID-19 pnömonisi ile birlikte akut pankreatit bulgulari ile başvuran bir hastayı sunmayı amaçladik. Hipertansiyon ve koroner arter hastalığı olduğu bilinen 75 yaşında kadın hasta, kuşak tipi epigastrik ağri, bulanti ve nefes darliği şikayeti ile acil servise başvurmuştur. Laboratuvar değerleri ve görüntüleme yöntemleri ile akut pankreatit tanısı konulan hasta, COVID-19 testinin pozitif çıkmasıı ve oksijen ihtiyaci nedeniyle yoğun bakıma yatırılmıştır. Pankreatit için herhangi risk faktörü olmayan hastada COVID-19 enfeksiyonu ile korele pankreatit görülmüştür. Bu olgu, COVID-19'un yeni bir viral pankreatit etkeni olabileceği veya var olan bir pankreatitin şiddetini artırabileceği veya bunlardan bağımsız olarak otoimmüniteyi tetikleyebileceği hipotezlerini düşündürmektedir. Bu görüşü desteklemek için COVID-19 hastaları üzerinde çok sayıda çalışmaya ihtiyaç vardır.

Anahtar Kelimeler: Estetik kaygı, demografik veri, kontakt lens

ABSTRACT

Although COVID-19 infection, declared as a pandemic by the World Health Organization, seems to affect the primary respiratory system, the importance and recognition of gastrointestinal symptoms are gradually increasing. In our case, we aimed to present a patient who presented with signs of acute pancreatitis concurrent with COVID-19 infection. A 75-year-old female patient, known to have hypertension and coronary artery disease, was admitted to the emergency department with the complaint of generation-style epigastric pain , nausea and dyspnoea. The patient, who was diagnosed with acute pancreatitis by laboratory values and imaging methods, was taken to intensive care due to positive COVID-19 test and oxygen demand. Pancreatitis was seen with COVID-19 infection in the patient without risk factors for pancreatitis.This case suggests hypotheses that COVID-19 could be a new viral pancreatitis agent or increase the severity of an existing pancreatitis or trigger autoimmunity independent of them. numerous studies on covid-19 patients are needed to support this view.

Keywords: Aesthetic concern, demographic data, contact lens

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Introduction

Coronavirus Disease 2019 (COVID-19) which was detected for the first time in Wuhan, China in December 2019, was declared as a pandemic by World Health Organization (WHO) in March 2020. Although COVID-19 seems to mainly affect the respiratory system, its extrapulmonary symptoms are quite frequent and are not yet clear. Gastrointestinal symptoms are becoming increasingly recognized, and nausea, vomiting, diarrhea and abdominal pain are the major gastrointestinal symptoms associated with COVID-19.[1] Despite negative respiratory tests, the presence of viral RNA in stool samples suggests a possible fecal-oral route.[2] The etiopathogenesis of acute pancreatitis due to COVID-19 is uncertain and this clinical situation is mentioned in a small number of case reports.[3] In a study conducted by Wang et al., found that 17% (9 patients) of 52 patients with COVID-19 pneumonia had pancreatic damage.[4] In the published cases, there are many hypotheses that COVID-19 may be a new viral pancretitis factor or the virus increases the severity of the existing pancreatitis.[2] In this case, we aimed to present a COVID-19 patient who presented with respiratory symptoms and signs of acute pancreatitis did not have known pancreatitis risk factors

Case Report

A 75-year-old female patient, with a history of hypertension and coronary artery disease, was admitted to the emergency department with the complaint of generation-style epigastric pain, nausea, and dyspnea. There was no previous history of alcohol use or a known history of gallbladder disease. She had used metoprolol and acetylsalicylic acid for 5 years. The patient's physical examination in the emergency room had abdominal distension and positive murphy findings. Oxygen therapy needed at 2 liters/minute. The patient's COVID-19 test was found to be positive. The tested laboratory plasma amylase and lipase values were measured as 1549 U/L, 1874 U/L, respectively (Figure 1).

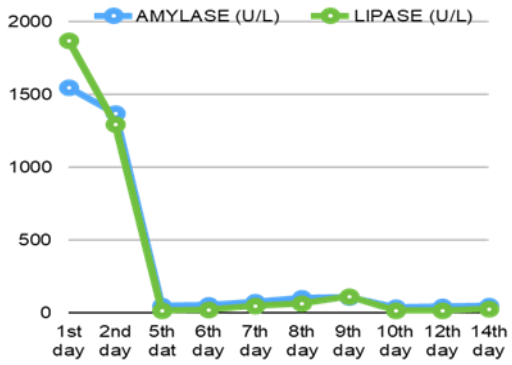

Figure 1. Amylase and lipase levels

Calcium, triglyceride, and cholesterol levels were within normal limits. All serological parameters of the patient were negative (Anti-HIV, HBs antigen, Anti-HBs antibody, Anti-HBc antibody, Anti-CMV). In the diagnostic contrast-enhanced abdominal tomography, no pathology such as gallbladder stones that could cause acute pancreatitis was observed. It was reported as the findings were in favor of pancreatitis in the peripancreatic region and the dry area of the pancreas without dilatation in the bile ducts with normal gall bladder wall thickness (Figure 2). The Modified Glasgow Acute Pancreatitis Score was 1 point. The patient was hospitalized in the intensive care unit with the diagnosis of COVID-19, respiratory distress, and acute pancreatitis. Moderately severe acute pancreatitis was diagnosed according to modified Atlanta criteria. Pain palliation, fluid therapy and antibiotic therapy were administered There was no need for oxygen on the second day of her follow-up.

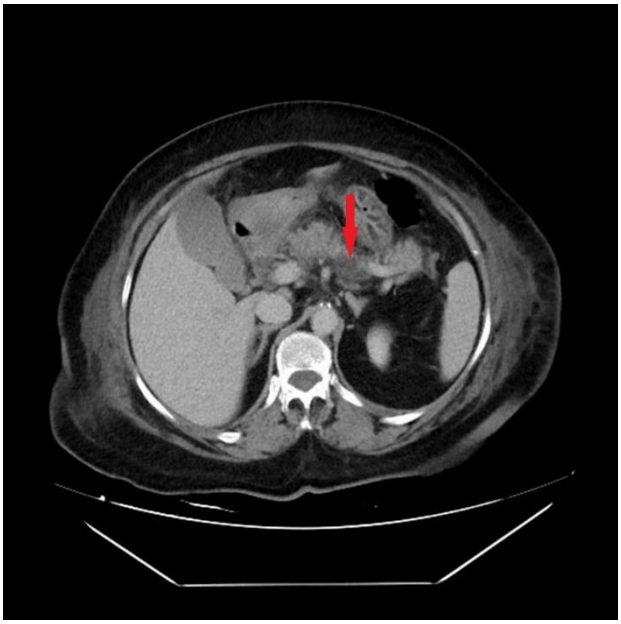

Figure 2. Contrast Enhanced CT imaging. Findings in favor of pancreatitis in peripancreatic region and pancreatic dry area without any dilatation in the biliary tract with normal gall bladder wall thickness.

Melena occurred on the 4th day of the follow-up of the patient who was followed up in the intensive care unit due to pain palliation, fluid resuscitation and antibiotic therapy. Magnetic resonance imaging was then performed, and intense edema on the head of the pancreas, necrotic foci involving more than 50% of the head and tail were observed (Figure 3). It was hypothesized that the severe edema of the pancreatic head might have been caused melena by increased pressure on a pre-existing duodenal ulcer. Endoscopy was planned to be performed under elective conditions. The patient, who was fed during intensive care follow-ups, whose melena complaints were regressed and the need for analgesic medication was decreased was transferred to the gastroenterology service. In order to write this case report, the consent of the patient was first obtained.

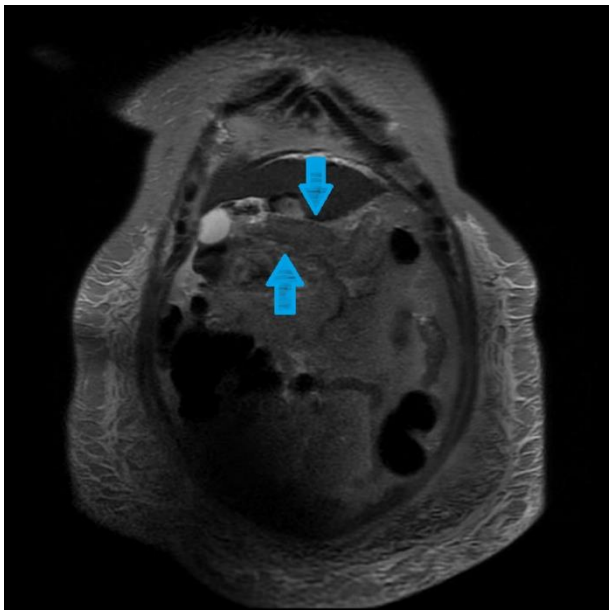

Figure 3. MRI imaging. There are widespread necrosis areas in the pancreas, which are more intense in the head of the pancreas, which do not enhance contrast, and were evaluated in favor of necrotizing pancreatitis.

Discussion

The incidence and pathogenesis of pancreatic damage in coronavirus infections is quite unclear. In a retrospective study conducted in the emergency departments of 50 hospitals in Spain, the incidence of acute pancreatitis was 0.07% in more than 63,000 patients with COVID-19 infection.[5]

In another retrospective study, 11,883 COVID-19 cases hospitalized in the USA were analyzed and acute pancreatitis was detected in 32 patients (0.27%).[6]

In 2006, Yang et al hypothesized that hyperglycemia, which developed due to the damage of the virus to pancreatic islets through ACE2 during the SARS epidemic, is an independent predictor of mortality and morbidity. they suggested that covid-induced pancreatic damage was temporary and only 2 patients developed permanent diabetes in their long-term follow-up.[7]

The most common causes of acute pancreatitis are gallstones and excessive alcohol use. Other causes may include metabolic disorders, autoimmune diseases, drugs, and toxins. Mumps, Coxsackie B, measles, Epstein-Barr and hepatitis A, B and E, human immunodeficiency virus, Cytomegalovirus, Coxsackievirus B, and Influenza A (H1N1) related viral acute pancreatitis have also been described.[2] Viral pancreatitis accelerates the cell death process by causing intracellular enzymes to leak because of inflammation and edema caused by direct effect of the virus on pancreatic acinar cells.[2] Although there was no direct evidence of viral pancreatitis in our patient, the temporal relationship with COVID-19 and the absence of another ethology suggested a viral pancreatitis induced by coronavirus.

COVID-19 uses angiotensin converting enzyme (ACE-2) receptors to enter the host cell. These receptors, which determine the severity of inflammation, are expressed in a greater number in the pancreas than in the lungs.[8] The virus targets ACE-2, which is highly expressed in pancreatic β cells. ACE-2 expression in the pancreas during SARS-CoV-2 infection can therefore cause acute inflammation.[4] It is thought that COVID-19-associated acute pancreatitis may develop both through direct pancreatic damage by the virus via ACE-2 receptors and through local vasculitis and microthrombosis secondary damage because of the systemic inflammatory response.[9] In our patient, moderately severe acute pancreatitis symptoms were observed along with mild respiratory symptoms.

Diagnosis of acute pancreatitis requires at least two of the trio of characteristic findings on diagnostic imaging, abdominal pain, amylase, or lipase 3 times the upper limit of normal. Contrast-enhanced computed tomography provides over 90% sensitivity and specificity in the diagnosis of acute pancreatitis.[4,10] In our patient, no pathology of the gall bladder was observed in the CT performed in the emergency room, and while there were minimal signs of pancreatitis in the pancreas, MRI performed on the development of melena in the intensive care unit showed that pancreatitis progressed to severe necrotizing pancreatitis within 4 days.

In the study reported by Jin et al., lipase elevation was reported in 48% of COVID-19 patients. It has been reported that none of the patients with lipase values 3 times the normal level did not meet the Atlanta criteria and although hyperlipidemia was observed, acute pancreatitis was detected less frequently.[10] According to the revised Atlanta classification, acute pancreatitis is divided into two main categories: acute interstitial edematous pancreatitis and acute necrotizing pancreatitis. In this case, in COVID-19 pancreatitis, diffuse pancreatic head edema and necrosis foci occurred together in the pancreas.

Conclusion

Although acute pancreatitis is not an uncommon condition, this case report suggests the possibility of a rare and direct causal relationship between COVID-19 infection and acute pancreatitis. This case suggests that COVID-19 could be a new viral pancreatitis agent or may increase the severity of an existing pancreatitis. Numerous studies of COVID-19 patients are needed to support this view.

Compliance with Ethical Standards

Consent was obtained from the patient.

Conflict of Interest

The authors report no conflicts of interest.

Author Contribution

Authors contributed equally to this work.

Financial Disclosure
None

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