

Double peptic ulcer perforation in a Covid-19 patient, extremely rare entity

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ABSTRACT

Peptic ulcer perforation is one of the leading causes of acute abdomen, presenting with acute abdominal pain and severe distress for the patient. In one-third of patients, the presentation is less dramatic, resulting in significant delays in diagnosis. Herein, we present a very rare case operated on for diffuse purulent peritonitis with double perforation of the stomach in a COVID-19-positive patient, which had a depressing outcome.

Keywords: COVID-19; perforation; surgical treatment.

INTRODUCTION

Peptic ulcer perforation is one of the leading causes of acute abdomen, presenting with acute abdominal pain and severe distress for the patient. The lifetime prevalence of peptic ulcer disease in the general population is 5–10%, the incidence is 0.1–0.3% per year.^[1] Although there has been a marked decrease in incidence and hospitalization and mortality rates over the past 30 years,^[2,3] complications are still encountered in 10–20% of these patients.^[4,5] Perforation is a rarer complication than bleeding, but is the most common indication for emergency surgery and is responsible for approximately 40% of all ulcer-related deaths.^[6]

COVID-19 emerged as an epidemic that negatively affected the health system. General surgery clinics were also affected by this epidemic. As in many countries in the world, curfews have been implemented in our country as well. The patients were advised by the Ministry of Health not to apply to the

hospital unless there is an emergency. Emergency surgery and non-cancer surgery operations were postponed in many centers, as in our center, which is a third level healthcare institution, and all healthcare workers were assigned to pandemic services and pandemic intensive care units. In diseases that have both medical and surgical treatment options (acute appendicitis, acute cholecystitis, etc.), primarily medical treatments were adopted.^[7] There was a serious decrease in the number of emergency visits, which caused the cases to become more complicated and increased mortality.^[8] We will present our case of double peptic ulcer perforation associated with COVID-19 pneumonia, which has not yet been reported in the literature. A consent form was obtained from the patient to use this condition in a scientific journal.

CASE REPORT

An 89-year-old gentleman was admitted to the emergency department with a sudden starting abdominal pain lasting

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for 2 days with a continuous character. The patient's medical history included chronic drug use for Parkinson's disease, benign prostatic hypertrophy, diabetes mellitus, and hypertension. The patient was also diagnosed with COVID-19 3 days ago and his treatment was ongoing. The vital signs of the patient were examined. The pulse was 104/min, the blood pressure was 90/60 mm Hg, and the temperature was 37.8°C. On physical examination, the patient's abdomen was distended, and bowel sounds were hypoactive; furthermore, he was cachectic and infirm with no previous surgery. There was rebound and defense in four quadrants of the abdomen. In the laboratory, WBC 17.9 K/uL, CRP 331.8 mg/L ferritin 1370.9 ug/L, D-dimer 5670 ugFEU/L, glucose 216 mg/dL, BUN 144 mg/dL, and creatinine 1.96 mg/dL. Thoracic and abdominal tomography revealed signs of viral pneumonia in the lung as well as free intra-abdominal air (Fig. 1). Immediately, the patient underwent an emergent laparotomy. At laparotomy, the abdominal cavity was found full of purulent exudate with multiple abscesses in the mesentery among the intestinal loops. After irrigating the abdomen with saline, a second perforation area of 1 cm in the prepyloric antrum and 4 mm in the distal of it was detected. Perforation areas were repaired using the Graham's method (Fig. 2). After the sur-

gery, the patient did not manage to recover. In the post-operative course, patient's viral pneumonia progressed, and he was intubated on the 3rd post-operative day. Unfortunately, we lost our patient due to cardiorespiratory reasons on the 7th post-operative day.

DISCUSSION

Peptic ulcer perforation (PUP) is the most frequent surgical emergency with high morbidity and mortality. PUP is most commonly present in the first part of the duodenum as post-pyloric and pre-pyloric antrum.^[9] Helicobacter pylori infection and chronic use of non-steroidal anti-inflammatory drugs (NSAID) are the most common contributing factors to perforation.^[10] Double PUP is an infrequent clinical presentation. Chronic NSAID and cortisone use were mentioned in six of the nine cases reported in the literature. In one of the other three patients, the perforations arose after acute gastric dilatation,^[11] and in one of them, after a burn.^[12] The last patient was 4 years old, although the etiology is unknown.^[13] Eight of these cases were published between 1946 and 1969, and the recent case was reported in 2015. Although our patient had a history of chronic drug

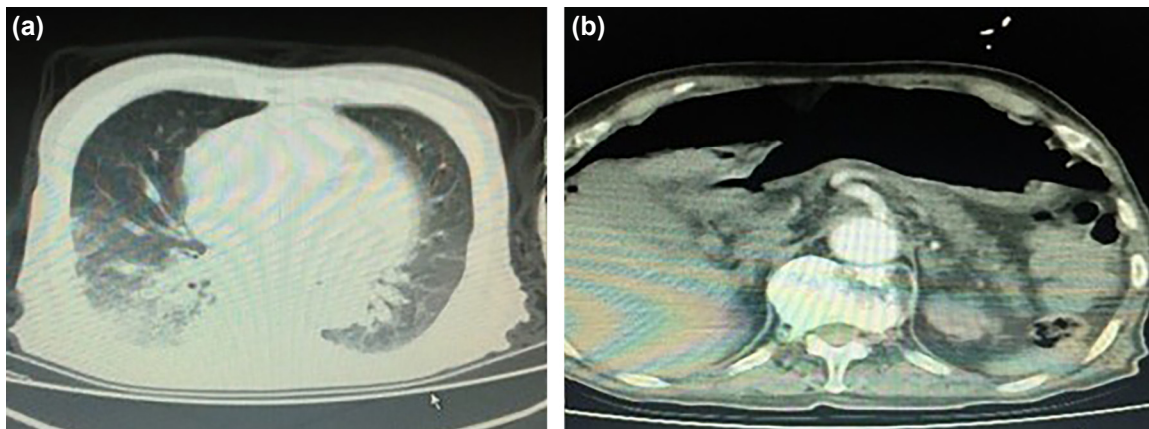


Figure 1. (a, b) Findings of perforation and COVID-19 in computed tomography

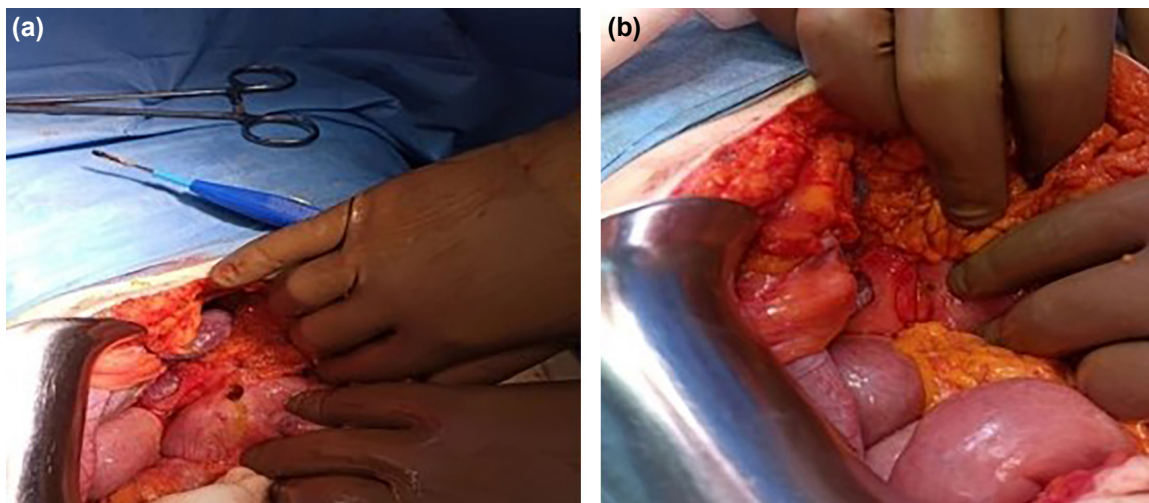


Figure 2. (a, b) Proximal and distal perforation site, after Graham's repair.

use due to his chronic diseases, there was no long-standing NSAID usage. It has been shown that the gastric mucosal barrier, which is a protective factor against peptic ulcers, is weakened due to hypoxia.^[14] We consider the gastrointestinal mucosal barrier faded due to hypoxia in our patient diagnosed with COVID-19 before the perforation, which accelerated the disease.

The time to surgical management is critical for survival. Except for the patient's late admission to the emergency department, we consider that being COVID-19-positive may be destructive in the post-operative mortality of the patient. A multinational collaborative study has recently demonstrated that the mortality rate of emergency surgeries performed in COVID-positive patients is high with high respiratory complications.^[15]

Conclusion

While the COVID-19 pandemic changes many habits, different surgical cases and clinics are encountered. We anticipate that we will encounter different cases such as double peptic ulcer perforation reported 9 times in the literature during this pandemic.

Informed Consent: Written informed consent was obtained from the patient for the publication of the case report and the accompanying images.

Peer-review: Externally peer-reviewed.

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Conflict of Interest: None declared.

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OLGU SUNUMU - ÖZ

Bir Covid-19 hastasında çift peptik ülser perforasyonu, son derece nadir bir durum

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Peptik ülser perforasyonu, akut karın ağrısı ve hasta için şiddetli sıkıntı ile kendini gösteren, akut karının önde gelen nedenlerinden biridir. Hastaların üçte birinde başvuru geç olup tanıda önemli gecikmelere neden olur. Burada Covid-19 pozitif bir hastanın midesinde çift ülser perforasyonu gelişmesi sonucu diffüz pürülan peritonit oluşan ve acil cerrahi tedavi uygulanan çok nadir bir olguyu sunuyoruz.

Anahtar sözcükler: Cerrahi tedavi; Covid-19; perforasyon.

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