

Appendicitis as a Presentation of COVID-19: An Autobiographical Case Report

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Abstract

Coronavirus disease 19 (COVID-19) is an infectious respiratory disease presenting with respiratory symptoms and flu-like presentation. However, gastrointestinal symptoms have been reported in a small portion of the population, rarely resembling the acute appendicitis. The simultaneous presence of the acute appendicitis and COVID-19 is being reported, the temporal association between appendicitis and COVID-19 is difficult to establish. The authors and coauthors, hereby, are reporting my own case. I am a 33-year-old male. I had periumbilical abdominal pain for 2–3 days which later localized to the right iliac fossa. Abdominal ultrasound was advised which revealed acute appendicitis. On the same day of ultrasound, I started to have sore throat and malaise, for which I got a RT-PCR done which was found to be positive for COVID-19. I was managed conservatively initially with interval appendicectomy after 4 weeks. SARS-CoV-19 is a generalized inflammatory condition and the temporal association of appendicitis and COVID-19 has been ascertained. However, to prove, the exact cause and effect relationship further studied with larger sample size are required.

Key words: Appendicitis, Appendicectomy, Coronavirus disease 19, Gastrointestinal symptoms

INTRODUCTION

The gastrointestinal symptoms are one of the most common ignored presentations of coronavirus disease 19 (COVID-19) and the prevalence has reached as high as 92% in children in some reports.^[1] Gastrointestinal manifestation of COVID-19 may mimic and/or cause acute abdominal findings including appendicitis, intussusception, gastrointestinal bleeding, and pneumatosis intestinalis.^[2-5] Primary symptoms such as fever and abdominal pain in patients with COVID-19 can be confused with appendicitis or, conversely, a true appendicitis may go unnoticed due to these symptoms.

The previous studies suggest a relationship between upper respiratory viral diseases and appendicitis.^[6] A

recent case report describes patients presenting with appendicitis-like symptoms, but ultimately was discovered to be SARS-CoV-2 positive with COVID-19 and not have appendicitis.^[7] SARS-Cov-2 pandemic has been reported to impact management of acute appendicitis with possibly fewer cases presenting to the hospital,^[8] a delay the time of diagnosis, increased frequently peritonitis,^[9] and more severe septic abdominal diseases.^[10] These previous reports suggest a potentially harmful impact of SARS-CoV-2 pandemic on access to emergency surgery services.

Abdominal pain and pathological features resulting in abdominal discomfort in adult COVID-19 infections are reported to be in the region of 2.2–5.8% in cohort studies. Few cases of COVID-19 presenting with acute abdomen with features of pancreatitis and appendicitis have also been reported. Many studies revealed that fewer or the same number of patients presented with acute appendicitis to the emergency room during the COVID-19 pandemic compared to the non-pandemic period, and those who did, presented with complications.^[11]

However, to the best of our knowledge, an association between testing positive for SARS-CoV-2 and presentation

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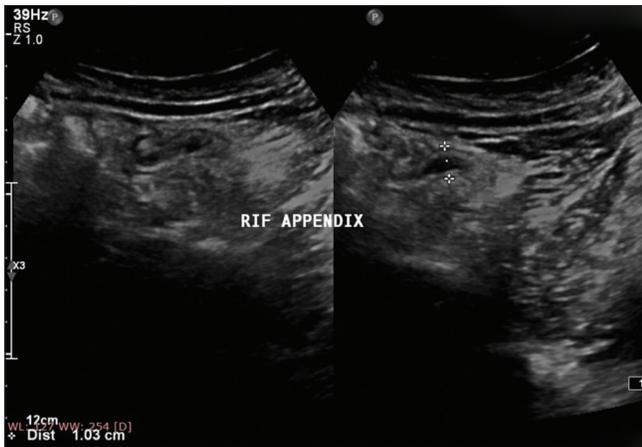


Figure 1: Ultrasound images show a dilated, aperistaltic tubular structure in the right iliac fossa measuring ~ 1 cm with surrounding inflammatory changes

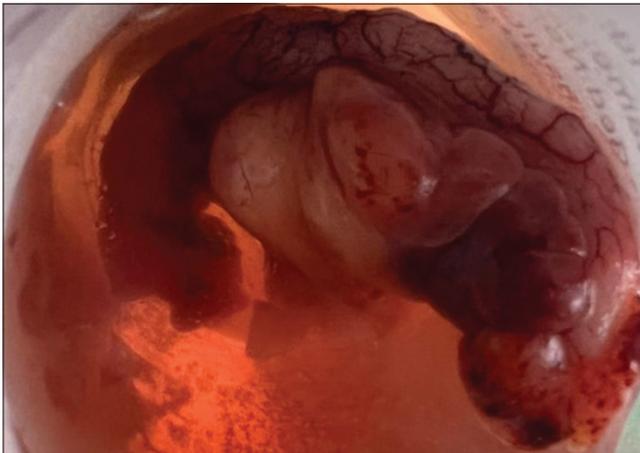


Figure 2: Post-operative specimen shows inflamed, dilated, and thick-walled appendix

to the hospital with acute appendicitis has rarely been reported. We are hereby reporting my own case with both acute appendicitis and positive for SARS-CoV-2 simultaneously.

CASE REPORT

I am a 33-year-old male patient. I had periumbilical abdominal pain for 2–3 days which later localized to the right iliac fossa. All other vitals were normal. On clinical examination, abdomen was soft and tenderness was present in the right iliac fossa. No palpable lump was noted. Abdominal ultrasound was advised which revealed an aperistaltic tubular structure in the right iliac fossa [Figure 1]. It measured ~ 1 cm in axial dimension and showed surrounding fat stranding. Rest of the abdominal structures were normal. Complete blood picture was found to be normal. C-reactive protein was found to be slightly raised.

On the same day, I started to have sore throat and malaise, for which i was advised RT-PCR which was found to be positive for COVID-19. My past medical, surgical, drug, and allergic history is insignificant with no history of similar episodes among family members I was managed conservatively initially with antibiotics. Interval appendicectomy was done after 4 weeks. Intraoperative findings revealed inflamed, dilated, and thick-walled appendix [Figure 2]. Histopathological examination of the post-operative specimen revealed. Transmural infiltration with polymorphs and lymphomononuclear cells was noted. The Serosa showed vascular congestion and inflammatory infiltrates.

DISCUSSION

COVID-19 is gastrointestinal symptoms are not uncommon. Anorexia, diarrhea, vomiting, and abdominal pain are the most common reported symptoms.^[12-14] Moreover, these symptoms might appear before the respiratory symptoms.^[15] Gastrointestinal symptoms such as nausea, vomiting, abdominal discomfort, and diarrhea have been reported in some patients with SARS-COV-2. These GI symptoms varied significantly among different study populations with the early- or mid-onset along with usual respiratory symptoms.^[11] Some studies claim appendicitis to be a presenting symptom apart from the common respiratory symptoms.^[7,16]

Multiple case reports had also shown that COVID-19 could present as acute abdominal pain sometimes even mimicking as acute appendicitis with anorexia, nausea, and vomiting.^[7,17-19] According to Saeed's study, nine out of 76 patients with acute abdominal pain tested positive for COVID-19.^[18] Likewise, two other case reports suggest a probable association between COVID-19 and appendicitis.^[7,20] Therefore, this demands a greater vigilance for rapid diagnosis and intervention in individuals with GI symptoms and concomitant SARS-CoV-2 infection.

In my case, the patient was diagnosed with COVID-19 before the surgery for appendicitis. An RTPCR for COVID-19 was sent following the suspicion of COVID-19 for sore throat, which came out to be positive. Ahmed *et al.*^[7] found that COVID-19 is extremely unlikely to present clinically appendicitis like symptoms (Right lower iliac fossa pain, anorexia, nausea, and vomiting), in laboratory and imaging findings, there were leukopenia, lymphopenia, and ground glass appearance. These findings raised the suspicion of COVID-19 especially the radiological findings (bilateral lung basal consolidations and ground-glass attenuations) that were typical for COVID-19.

Our case study shows the limited effectiveness of clinical diagnosis for the surgical abdomen in COVID-19 patients as these two conditions share symptoms such as fever, anorexia, nausea, vomiting, and even acute abdominal pain. It also reflects that SARS-CoV-2 could be one of the possible causes of acute abdominal cases such as acute appendicitis.

Avoidance of surgery in these patients is important because it reduces the risk of exposing the operating room staff, particularly in case of inadvertent release of pneumoperitoneum during laparoscopy, or direct exposure of COVID positive peritoneal fluid. Moreover, post-operative mortality in COVID-19 positive patients seems to be higher than expected, even for elective surgery where morbidity is usually low. This is another reason why a non-surgical alternative is so important in patients with confirmed or suspected COVID-19 infection.^[21]

CONCLUSION

COVID-19 is an inflammatory condition that can involve multiple systems. During the current SARS-CoV-2 pandemic, clinicians must have a high level of suspicion regarding the possibility of COVID-19 on various clinical manifestations including gastrointestinal symptoms. Although the temporal association of acute appendicitis with COVID-19 has been seen in my case, a timely imaging of abdomen has a critical role in the diagnosis of AA and further studies are required for direct association of both which can prove to be vital during pandemics. Temporal association has been proved; however, definite relationship needs to be proven. This may require studies with large sample size to prove the cause and effect relationship.

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