Conservative Management of Acute Appendicitis during the Peak of the COVID-19 Pandemic: A Case Series

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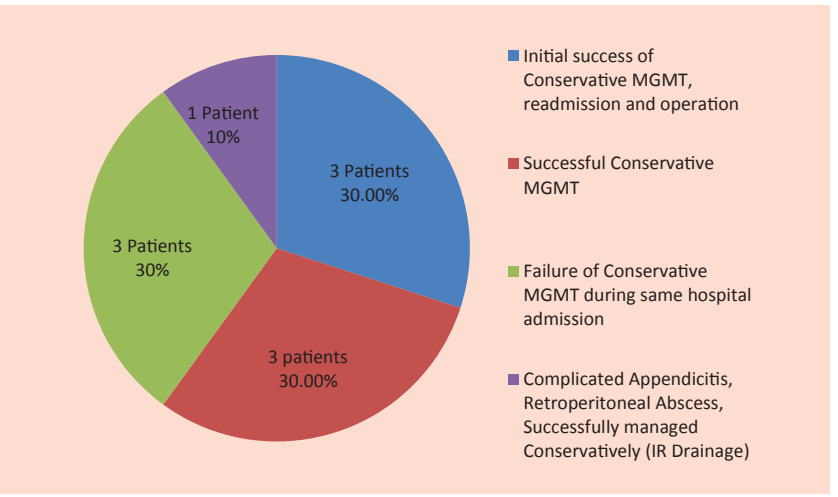
Operative management remains gold standard for acute appendicitis. It has been suggested that conservative (non-operative) management can be a reasonable treatment option with the advantage of avoiding potential surgical complications. But, the obvious advantage of surgery is the complete and long-term avoidance of further appendicitis. At the height of the COVID-19 pandemic, a rather conservative approach in management of some surgical conditions was followed, in an attempt to reduce hospital admissions whenever possible, effectively helping contain the pandemic and control spread of the virus.

Here we present a case series of patients who were admitted with acute appendicitis over 3 months, since the start of COVID-19 lockdown (Mid-March till Mid-June 2020) and were managed conservatively.

Inclusion Criteria:
1- Adult patients
2- CT scans conclusive or suggestive of appendicitis
3- ASA 3 or less

Exclusion Criteria:
1- Pediatric cases
2- Absence of sonographic or radiological evidence of appendicitis
3- ASA 4 or 5



CASE SERIES

The study included 10 patients with clinical picture suggestive of appendicitis. 9 had negative COVID-19 PCR tests and only one had a positive test.

COVID Negative Cases:

Six patients were obese with a BMI > 30. Eight patients had a CT diagnostic of acute appendicitis with no local features of local complications. One patient had a CT revealing an appendicolith inside the appendix with features of early appendicitis. None of the patients had features of sepsis.

All patients were given a trial of conservative management, with IV antibiotics, continuous monitoring of hemodynamics, analgesics and serial inflammatory markers (CRP and WCC).

Failure of Conservative management in same hospital admission:

Three patients ended up undergoing appendicectomy during the same hospital admission, due to persistence of symptoms, with or without improvement of inflammatory markers. The guidance regarding minimally invasive/laparoscopy was still unclear at that time, **so surgery was done through an open approach.**

Initial Success of Conservative Management:

Six patients were discharged after resolution of symptoms and clinical signs and improving inflammatory markers. However, three of those six discharged patients later presented with similar symptoms a second trial of conservative management was thought to be inappropriate and they had to undergo **surgery, which was done laparoscopically, with the presence of smoke extraction devices.**

COVID Negative Case:

This patient had an acutely inflamed appendix with retroperitoneal extension and an abscess formation. He was managed by CT guided drainage and antibiotic with satisfactory results. He was discharged after 10 days. He did not require hospital re-admission and surgery.

Discussion:

Safety issues regarding transmission of SARS-COV in a hospital setting and from patients to healthcare professionals have been raised. It had been found out that the viral RNA can be found in infected patients' stool an also in their gut mucosa. Therefore, it was safe to hypothesize that the virus can be transmitted from the abdomen. In laparoscopic surgery, with the creation of pneumoperitoneum, there would be a volume of stagnant gas in the abdominal cavity that might contain which may subsequently allow for a concentrated aerosolization of the virus. And when the contained gas is released, in theory, personnel inside the operating rooms could be exposed to the virus.

Looking at the possibility of transmission of other viruses from patient to doctor during surgery, it was found that HPV can be detected in the surgical plumes but there was no evidence that this aerosolized HPV DNA could develop into an active infection.

In a cross sectional study that looked into guidance from surgical professional bodies in (SAGES, EAES, RCS and RACS) it was agreed on that where non-operative management is possible such as in acute appendicitis, this should be implemented.

So, Appropriate non-operative treatment of appendicitis and open appendicectomy offered alternatives to the laparoscopic appendicectomy.

Considering the many advantages that laparoscopy provides when compared to open surgery, after troublesome initial recommendations to avoid laparoscopic surgery, it was evident that the benefit might sometimes outweigh the risks.

Conclusion:

Surgery remains gold standard and superior to non-operative management for acute uncomplicated appendicitis. For selected cases, conservative management of appendicitis can be a choice of treatment with the understandable risks of failure. The unusual circumstances of a global pandemic _that pose risk to both patient and surgeon_ allowed a renewed interest in conservative management of acute surgical conditions like early appendicitis to develop.