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Effectiveness of Conservative Management over Surgical Interventions in Appendicitis

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ABSTRACT

For almost a century, surgeons have thought of acute appendicitis as a progressive condition that leads to perforation. In recent decades, theories about this concept have gained traction, particularly among adults. However, appendectomy for acute appendicitis is still the most common urgent/emergent surgical treatment. Currently, mounting evidence indicates a shift in clinical practice toward non-operative therapy of various patients of acute appendicitis, whether non-complicated or complex. The purpose of this review is to report the findings from the literature on the non-operative therapy of acute appendicitis in both simple and complex patients.

Keywords: appendicitis, conservative, review, adults.

INTRODUCTION

Acute appendicitis is the most common cause of lower abdominal pain resulting in emergency visits globally [1]. Appendectomy has been the usual treatment for uncomplicated acute appendicitis for more than a century [2]. For decades, there has been a substantial disagreement about how to handle uncomplicated acute appendicitis. Several meta-analyses and clinical trials have been published to determine the optimal technique for managing uncomplicated acute appendicitis, but no consensus has been achieved [3-5].

In 2016, a meta-analysis of randomized controlled trials (RCTs) found that appendectomy was the most effective treatment, with higher efficacy and lower complication rates. Nonetheless, it claimed that antibiotic therapy may assist a subset of patients with uncomplicated acute appendicitis [6]. Similarly, in 2018, APPendicitis ACuta III (APPAC III) completed an RCT that demonstrated that antibiotic therapy alone could be an alternative to appendectomy when patients treated early with antibiotics had a 39% recurrence rate five years later [7].

The aim of this study is to assess whether it is effective to manage patients with non operative therapy in appendicitis.

MATERIALS AND METHODS:

All patients between the age of 10-65 years, admitted with the diagnosis of acute appendicitis as confirmed on ultrasound (sensitivity 81% and specificity 88%) and CT scan abdomen irrespective of sex and managed conservatively were included in the study [8].

All patients who initially underwent surgical intervention at presentation, with complicated appendicitis, any known co-morbidities, immune-compromised, and previous lower abdominal surgeries as recognized through history and previous medical records, were all excluded from our study.

A total of 20 patients were included in the study based on the above-mentioned inclusion and exclusion criteria.

All patients were kept nil per mouth (NPO) till the settlement of vomiting. At the same time, they received intravenous (IV) injections of ceftriaxone 1g BD and metronidazole 500mg three times a day, injection of paracetamol 1g SOS, and injection emeset

2cc BD for at least 24 hours. When patients were kept NPO, they were given injectable fluids, and a six-hourly recording of temperature, blood pressure, pulse rate, respiratory rate, and the local abdominal sign was done.

The effectiveness of conservative treatment was defined as clinical resolution of all symptoms without the need for surgical intervention, along with tolerating oral diet and no recurrence within six months of follow-up. Patients who clinically deteriorated or did not respond to the conservative treatment were operated on with either open or laparoscopic appendectomy.

Failure of treatment was divided into two sections. Firstly, patients who showed a lack of clinical improvement in their symptoms, i.e., persistent pain in the right iliac fossa, persistently increased leukocyte count, and patients who required surgical intervention. Secondly, patients who were admitted again with repeated symptoms of acute appendicitis within the period of six months of follow-up had undergone an appendectomy.

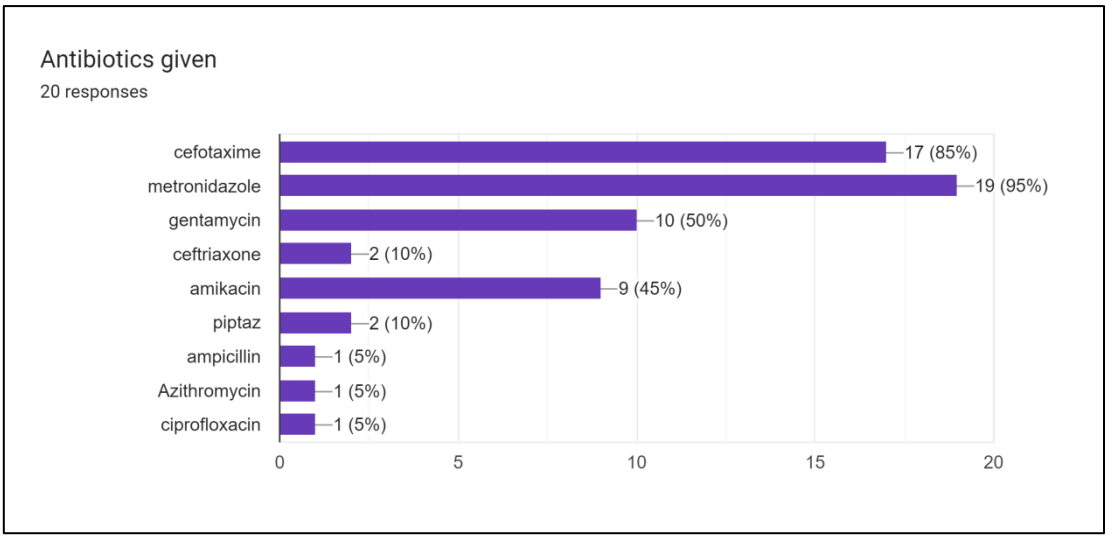

Figure 1: graphical representation of IV antibiotics given

RESULTS:

In this study, 20 cases of acute appendicitis were included and managed conservatively, of which 15 (75%) were males. In contrast, 5 (25%) were females showing occurrence of acute appendicitis among gender. No significant difference was noted between the gender and effectiveness of conservative treatment in patients with acute appendicitis. Most of the patients lying in age between 10-30 years (70%) and remaining 31-60 years (30%) and no patients with age more than 60 years were admitted with acute appendicitis.

18 patients failed conservative treatment on the initial admission and underwent surgical intervention, while 2 patients (10%) had developed recurrence during six months of follow-ups and they also underwent surgical intervention. (Figure 2). No significant difference was observed between white cell count and the effectiveness of conservative treatment.

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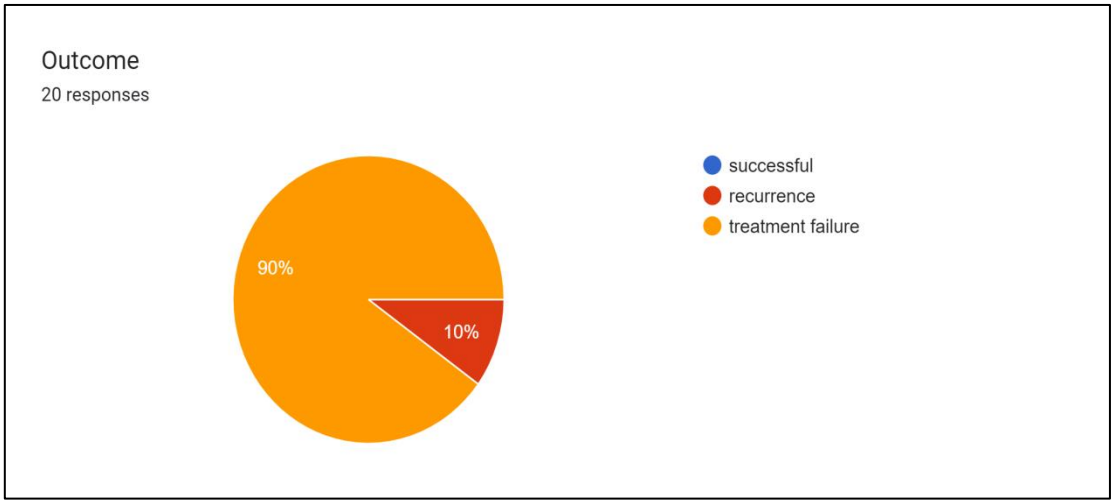

Figure 2: outcomes of conservative management

DISCUSSION:

Acute appendicitis is a leading cause of acute abdomen in ER patients [9]. While appendectomy is the preferred treatment for acute appendicitis, conservative care has been shown to be effective in indoor settings (9, 8). This method has successfully treated acute, uncomplicated appendicitis. A meta-analysis by Sallinen et al. found that conservative management is appreciated and even desired by some institutions [5]. A consensus decision should always be favored. Conservative care of severe appendicitis remains controversial, with no consensus achieved [10,11].

Recently, conservative treatment has been emphasized, however due to recurrence and treatment failures, several institutes now prefer surgical management. A study conducted at a tertiary hospital in Nagpur, India, found that 13% of patients had a recurrence and 25% experienced therapeutic failure, necessitating surgical management [12].

During the COVID-19 epidemic, non-surgical therapy of acute appendicitis became increasingly popular. In UK literature, it is recommended as the first-line treatment for appendicitis [13]. According to Spanish literature, before to the pandemic, approximately 10% of individuals with appendicitis were treated conservatively. During the COVID epidemic, this number increased to 19.2%, indicating a more conservative attitude to unforeseen conditions [14]. A 2020 randomized control trial in 25 US sites found that treating appendicitis with antibiotics resulted in 70% success, indicating that antibiotics are not inferior to appendectomy [15].

Our study found that conservative treatment was not successful for 90% patients despite its increasing popularity. The remaining patients experienced recurrences that necessitated surgery.

Although emergency surgery can be risky, it allows for an examination of the abdomen. Research indicates that carcinoid occurs in 0.43% of appendectomies and 0.85% of colon cancer cases [16, 17].

CONCLUSION:

Our research included 20 patients, but it was not practical in any of them. Hence, there was a clear indication in favor of the operative management of acute appendicitis. Conservative management is no doubt gaining ground, and a lot of centers are inclined towards non-operative management. therefore, further randomized controlled trials and meta-analyses should be carried out on the matter for a more conclusive verdict.

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