

Abdominal Pain in Relation to Recurrent Appendicitis in Patients Attending Gujarat Adani Institute of Medical Science, Bhuj, Kutch

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Abstract

Introduction: The definition of recurrent appendicitis requires a history of similar, recurrent right iliac fossa pain leading to appendectomy, with the histological confirmation of inflammation of the appendix. Subsequently, there should be complete resolution of symptoms after removal of the appendix. **Materials & Methods:** Data were collected from the patient's admission records. Recurrent appendicitis is defined as patients who had previous history of similar, recurrent right iliac fossa pain leading to appendectomy and histological confirmation of appendicular inflammation was done. Further information including number of previous episodes, number of previous admissions and subsequent treatment was collected. **Results:** There were 450 patients who underwent appendix surgery during the review period. Seventy patients had normal appendices and so were excluded. Of the 360 patients with appendicitis, there were 275 males and 95 females between six to 90 years old. Fifty five patients had a history and clinical course that fit the definition of recurrent appendicitis. Twenty five of the fifty five patients had one previous episode of pain while fifteen had two prior episodes and rest had multiple episodes. **Discussion & Conclusions:** Recurrent appendicitis accounts for about 17% of acute appendicitis in our institution. History of recurrent episodes of right iliac fossa pain typical of appendicitis should be sought in patient with

suspected appendicitis and should alert the clinician to the possibility of recurrent appendicitis. It is important to consider recurrent appendicitis as a differential diagnosis in patient with recurring right iliac fossa pain.

Keywords: Recurrent Appendix; Episodes; Abdominal Pain; Iliac Pain.

Introduction

Appendicitis is the term applied to inflammation of the *vermiform appendix* which, in humans, has no known function. It is rich in lymphoid tissue which gradually atrophies with advancing age. In the vast majority of cases, appendicitis is an acute condition. Appendicitis is the most common cause of acute abdomen [1]. With a general life time risk of 7-8%, the appendectomy accounts for one of the most common operations in general surgery. Postoperative complications after appendectomy include wound infection, intra-abdominal abscess, retrocecal abscess, intestinal perforation with peritonitis, bleeding and adhesions [2]. Appendicitis has always been thought to be a progressive disease, from acute inflammation followed by gangrene and necrosis and finally perforation. In recent years, there are reports to suggest that the disease can either resolve spontaneously or after antibiotic treatment [3]. Eriksson reported that in his series of 20 patients treated conservatively for clinically diagnosed appendicitis, seven of them developed acute appendicitis within one year of conservative treatment and required surgery [4].

Acute appendicitis is the most common abdominal surgical emergency, apart from trauma. It may occur at any age, affecting males more often than females,

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but the majority of patients are between 10 and 40 years old. Typically, the patient has central abdominal pain which may be associated with loss of appetite, nausea and/or vomiting, mild fever and leucocytosis. After a few hours pain is felt in the right lower abdomen [5].

Eriksson reported that in his series of 20 patients treated conservatively for clinically diagnosed appendicitis, seven of them developed acute appendicitis within one year of conservative treatment and required surgery. Barber et al also published a retrospective study on 1,084 patients with appendicitis and found that 6.5 percent of these had symptoms and signs compatible with appendicitis which resolved spontaneously before their final attendance for a similar complaint when the appendix was removed [3,6].

This led to the recognition of repeated inflammation of the appendix being a cause of recurrent right iliac fossa pain. The definition of recurrent appendicitis requires a history of similar, recurrent right iliac fossa pain leading to appendectomy, with the histological confirmation of inflammation of the appendix. Subsequently, there should be complete resolution of symptoms after removal of the appendix.

Methods

This study was conducted in the general surgery department at Gujarat Adani institute of Medical Science, Bhuj, Kutch. We conducted a retrospective study that includes all patients who had appendectomies performed for suspected appendicitis in the period of last 6 months. The ethical clearance was obtained from the institute ethical committee and all the patients was informed prior to the study and written informed consent was taken from all the patients. Data were collected from the patient's admission records. Recurrent appendicitis is defined as patients who had previous history of similar, recurrent right iliac fossa pain leading to

appendectomy and histological confirmation of appendicular inflammation was done. Further information including number of previous episodes, number of previous admissions and subsequent treatment was collected. Follow-up was taken via physical examination and those who were not physically were asked through the telephone interview to assess if they had persistent symptoms postoperatively.

Results

There were 450 patients who underwent appendix surgery during the review period. Seventy patients had normal appendices and so were excluded. Of the 360 patients with appendicitis, there were 275 males and 95 females between six to 90 years old (mean: 38, median: 36).

Fifty five patients had a history and clinical course that fit the definition of recurrent appendicitis. Twenty five of the fifty five patients had one previous episode of pain while fifteen had two prior episodes and rest had multiple episodes.

Only eight patients did not seek medical attention during their previous painful episodes. There were 65 admission episodes among these 55 patients. There were 16 patients with 20 previous admissions for suspected appendicitis without surgery. One patient was offered appendectomy in another hospital seven years ago but declined. Fifty-eight percent of the episodes occur within six months of the current admission when appendectomy was performed.

The follow-up period ranged from 35 to 40 months. None of the patients had recurrent right iliac fossa pain. Table I compared some characteristics of the group with recurrent appendicitis with those that had an index episode of clinical acute appendicitis. The former group comprised 27% females and the latter 21%. There was no difference in the mean age of developing recurrent or acute appendicitis (38years).

Table 1: Characteristics of patients with and without recurrent appendicitis

	Recurrent appendicitis	Not recurrent appendicitis	P value
Male/Female ratio	81%	85%	
Mean Age	38.2	39.1	
Duration of Symptoms	1.5 days	2 days	P = 0.01*
Perforation rate	17%	30%	

* indicates Statistically significance at $p \leq 0.05$

Discussion

To confirm the diagnosis of chronic appendicitis,

surgeons not only require a pathology proof but a series of other criteria as well. That is why surgeons and pathologists don't share a common viewpoint

on the case [7].

The pathophysiology of recurrent inflammation of the appendix is unclear. In acute appendicitis, it is believed that obstruction of the appendiceal lumen leads to overgrowth of the bacteria. The resultant distension of the appendix causes inflammation, ischaemia and perforation. Some authors speculate that the possible pathophysiology of recurrent appendicitis is either partial obstruction of the appendiceal lumen or the excessive mucus production in the appendix [8].

Diagnosis of recurrent appendicitis can be a challenge for the unaware. Frequently in the female, a gynaecologic diagnosis was made to account for the repeated symptoms [3,9]. A previous operation for pain at the right iliac fossa does not necessarily rule out the diagnosis of recurrent appendicitis; drainage of an appendiceal abscess without removal of the offending appendix can also lead to recurrent appendicitis [10].

History of recurrent right iliac fossa pain seems to exclude appendicitis. However, with more evidence of recurrent appendicitis, this view needs to be changed. Since there are other causes of the recurring right iliac fossa pain such as ureteric colic, diverticulitis, worm infestation, gynaecological conditions, and patients with recurring symptoms should have investigations to exclude these causes [11,12].

Conclusion

Recurrent appendicitis accounts for about 17% of acute appendicitis in our institution. History of recurrent episodes of right iliac fossa pain typical of appendicitis should be sought in patient with suspected appendicitis and should alert the clinician to the possibility of recurrent appendicitis. It is important to consider recurrent appendicitis as a

differential diagnosis in patient with recurring right iliac fossa pain.

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