

Original Article

Recurrent Abdominal Pain and Chronic Appendicitis

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ABSTRACT

Background: The question of whether chronic appendicitis can give rise to chronic abdominal pain has always been a matter of controversy. The main purpose of this study was to find a means of diagnosing chronic inflammation of appendix through clinical and histopathological procedures.

Methods: A group of 18 patients complaining of frequent pain attacks in their RLQs were involved in our study. The patients' history, clinical and lab findings were closely evaluated. All the patients underwent appendectomy and all their appendices were histopathologically examined. Chronic appendicitis was ruled in with a positive pathology report confirming chronic inflammation. All the patients referred for their follow-up visits in a period of one year.

Results: Histopathology reports confirmed chronic appendicitis in 16 of the cases (88.8%). From them 93.7% expressed complete pain relief in the follow-up visits. 62.5% of our patients were women and the rest were men. The patients were categorized into three age groups as those less than 15 years (18.75%), between 15 and 25 years (31.25%) and older than 25 (50%).

Conclusion: It seems as if chronic appendicitis could be blamed for recurrent abdominal pain attacks. The disease is easily cured via appendectomy.

Key words: Chronic appendicitis, Recurrent abdominal pain, Appendectomy.

Soon after acute appendicitis was described in 1886 by Fitz¹, chronic appendicitis evolved as a label for patients with a variety of abdominal complaints. Overuse of appendectomy without improvement in symptoms gradually discredited the idea of chronic or recurrent appendicitis². Although once controversial^{3,4}, recurrent and chronic appendiceal disease is now well documented in medical literature⁵⁻¹¹, some authors have proposed the following criteria for chronic appendicitis: persistence of symptoms for more than two weeks, confirmation of chronic appendiceal inflammation on pathologic exam and relief of symptoms following appendectomy^{5,7}.

Clinical signs of chronic appendicitis are similar to those of acute appendicitis but have a more prolonged duration¹².

Histopathologic findings of chronic appendicitis include an inflammatory infiltrate consisting of lymphocytes, histiocytes, and eosinophils besides associated fibrosis of the appendiceal wall¹³.

The pathophysiology of chronic appendicitis is thought to represent partial or recurrent obstruction of the appendiceal lumen by fecaliths, lymphoid hyperplasia, tumors and foreign bodies. Luminal secretions accumulate with progressive dilation of the appendix until the intraluminal pressure overcomes the obstruction resulting in extrusion of the appendiceal contents and subsequent complete or partial relief of symptoms⁵. Mild local inflammation after a resolving attack of acute appendicitis may result in chronic right lower quadrant discomfort³.

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Despite a convincing body of evidence and a number of more recent patient series and reviews, existence of recurrent or chronic appendicitis continues to be debated¹⁴.

In this study we evaluated a group of patients who were suffering from frequent attacks of pain and discomfort in their right lower quadrant (RLQ).

We tried to answer the question if chronic appendicitis can be enlisted among the causes of recurrent abdominal pain.

Materials and Materials

This was a prospective crossover study performed on patients with a history of pain in their RLQ for at least two weeks and had at least two admissions with a presentation suggesting appendicitis.

History taking in all patients was followed by a thorough physical examination and a series of lab tests including CBC, ESR, CRP, Urinalysis, Stool exam, Plain abdominal X-ray, abdominal and pelvic sonographic study, Upper GI series, barium enema and CT scanning of abdomen and pelvis.

Cases in whom abdominal pain could be attributed to a previous abdominal surgery or an underlying disease such as porphyria, hepatitis or parasitic infections were excluded from the study. In a group of 18 patients no definitive cause could be found for their abdominal pain. The patients were also visited by a psychiatrist to rule out the probable psychic etiologies.

The patients were informed of the possibility that the pain may persist even after appendectomy.

All the patients underwent appendectomy. Experienced pathologists carefully examined all appendix specimens for signs of chronic inflammation.

The patients were put in three age groups: Younger than 15 years, between 15 and 25 years and older than 25 years.

In a one-year follow-up, the cases were observed for recurrent abdominal pain.

The collected data were analyzed via statistical measures.

Results

The study took a total duration of 18 months to be completed. A group of 18 patients whose chief complaint was pain and discomfort in their RLQ were studied. The pain varied in duration from at least two weeks to 2.5 years. Dyspepsia also accompanied the pain in three cases. All the patients underwent appendectomy. The pathology reports confirmed the presence of chronic inflammation in 16 (88.8%) patients (10 women and 6 men).

In 2 cases no specific evidence was found to document chronic appendicitis.

The abdominal pain improved completely after operation in as many as 17 cases. Following appendectomy pain in one of the patients persisted though his pathology report was positive for chronic appendicitis. He was among the three patients who had dyspepsia along with their painful RLQ.

Nine (50%) of the patients were older than 25 years, 6 (31.25%) were between 15 and 25 years and 3 (18.75%) were younger than 15 years of age.

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^{3,4,15}.

Some authors have referred to chronic appendicitis as a misnomer for recurrent acute appendicitis¹⁶. Some others believe that appendicitis either cries or is still but never grumbles¹⁷.

A group of physicians think that repeated episodes of abdominal pain make a diagnosis of appendicitis unlikely⁸.

Our study besides some similar surveys shed more light on this controversial topic. Our patients had experienced several attacks of pain in their RLQ for at least more than two weeks, which had taken them to hospital each time.

In pathology study of these cases it was proved that 89% of the patients really had chronic appendicitis. Ninety three point

eight percent of patients revealed a complete relief following appendectomy, which with respect to the given criteria^{5,7} offers a solid proof for chronic appendicitis in them.

In a similar study up to 95% of appendix specimens in such patients were histologically reported abnormal¹⁸. Another study showed that 14.2% of all appendectomies were reported as chronic appendicitis. In about 81.8% of the patients appendectomy could relieve their pain completely¹⁹. In over 3600 cases of appendectomy, an average of 1.1 % (range: 0.01%-3%) of patients had symptoms for at least two weeks and a proof of chronic appendicitis on their pathologic exam¹⁴. In both of the above-mentioned studies^{14,19} chronic appendicitis was assumed an independent entity from acute and recurrent appendicitis (Table 1).

Demographic analyses showed a significantly higher relative prevalence in women (62.5%) and also in the age group of older than 25 years (50%). Further studies are required to assess the causes of such variations in different age and sex groups. As is evident, our results regarding gender and age groups are contrary to acute appendicitis, which is said to predominantly affect men^{3,20}, particularly within the second and third decades of life³. These facts also support the idea that chronic appendicitis should be considered as an independent diagnostic entity. A higher prevalence of chronic appendicitis in women is especially important because a lot of gynecologic lesions mimic similar symptoms in RLQ²¹.

Therefore, it is prudent to put chronic appendicitis among the differential diagnoses while approaching to RLQ pain. In contrast to acute appendicitis, none of the hematological tests were deranged in chronic appendicitis. Imaging findings were also normal. Only in barium enema there were signs of appendix filling defect, luminal irregularities or late emptying of the lumen. CT scanning was simply performed in our study to find out if there were other probable causes of pain and not to diagnose appendicitis. Of course in many studies abdomen and pelvis CT scanning proved to

give the highest diagnostic accuracy among all other modalities^{5,22}. CT findings in chronic appendicitis are very similar to acute appendicitis and include Pericecal fat stranding (100%), appendix dilatation (88.9%), focal local apical thickening (66.7%), enlargement of lower abdominal lymph nodes (66.7%) and calcified appendicoliths (50%)⁵.

As a whole, we came to this conclusion that chronic or grumbler appendicitis should be assumed as an independent diagnostic entity while approaching to recurrent pain in RLQ. Besides, with respect to the high rate of recovery following appendectomy, it should be considered as an effective treatment especially when all other differential diagnoses have already been ruled out. Needless to say, all the patients must be warned about the persistence of their pain even after surgery.

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