

Original article:

Study of the relationship between clinical improvement and histopathological findings of removed appendix

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Abstract:

Introduction: Chronic right lower quadrant abdominal pain is a common clinical entity and continues to remain diagnostic and therapeutic problem. Although inflammation of the appendix vermiformis usually results in an acute painful state, there is debate whether so called chronic or recurrent appendicitis may cause persistent or recurrent pain in the right lower quadrant abdomen.

Material and methods: Collection of data was from the clinical history, physical examination, relevant investigations, imaging modalities and follows up of the patients (in-patient / out-patient). It was spread over a period from October 2015 to June 2017.; all the cases coming or reporting to the B.L.D.E Hospital and Medical College, Vijayapur during the study period and satisfying inclusion criteria was included in this prospective study.

Results: Histopathological examination Out 42 patients, 42(100%) patients had pathological signs of appendicitis.Out of 42 patients, 9(21.4%) patients were having acute inflammation and 33(78.55%) patients had chronic appendicitis.

Conclusion: To conclude, Histopathology report showing Chronic Appendicitis is one of most important tool for diagnosis.

Introduction

Chronic right lower quadrant abdominal pain is a common clinical entity and continues to remain diagnostic and therapeutic problem. Although inflammation of the appendix vermiformis usually results in an acute painful state, there is debate whether so called chronic or recurrent appendicitis may cause persistent or recurrent pain in the right lower quadrant abdomen. It can be treated either by open surgical method or laparoscopic method. ^{1,2}Laparoscopy in these patients showed to be both an excellent diagnostic tool and therapeutic method with decreased morbidity. Proponents of the theory of pain associated with chronic or recurrent appendicitis refer to the efficacy of elective appendectomy in selected patients. Few studies showed that removal of the appendix from patients with persistent or recurrent right lower quadrant abdominal pain is more likely to improve the pain than leaving the appendix in situ.³

Material and methods

Collection of data was from the clinical history, physical examination, relevant investigations, imaging modalities and follows up of the patients (in-patient / out-patient). It was spread over a period from October 2015 to June 2017.; all the cases coming or reporting to the B.L.D.E Hospital and Medical College, Vijayapur during the study period and satisfying inclusion criteria was included in this prospective study.

Inclusion criteria:

- Patients Aged between 15 and 60 years.
- Patients who have suffered from chronic/recurrent RLQ pain, in whom Complete hemogram, Urine routine, Ultrasonography of Abdomen did not reveal any pathology.
- Experience of continuous pain or should have endured at least one pain attack in the month prior to inclusion.

Exclusion criteria:

- 1] History of chronic back pain,
- 2] Previous abdominal surgery with exception of diagnostic laparoscopy or laparoscopic sterilization,
- 3] Specific gastrointestinal disorders,
- 4] Gynaecological diseases,
- 5] Urological diseases
- 6] Finally exclusion will be done if diagnostic laparoscopy reveals abnormalities other than the appendix related.

All patients with chronic or recurrent RLQ pain will undergo complete general physical examination, local examination and systemic examination (inspection, palpation, percussion and auscultation).

After complete workup, investigations and clinical diagnosis ascertained, patients were considered for diagnostic laparoscopy. All patients were informed of the risks and benefits of the procedure. Standard three-trocar laparoscopy was performed.

Results:

Table 1: Distribution of cases according to Symptom

Symptom	N	%
RLQ pain (months)	42	100
Fever	7	16.7
Vomiting	12	28.6

The associated symptoms under this study were vomiting and fever which were on and off. Main complaint was the

pain abdomen present in all 42 patients (100%), vomiting was present in 12(28.6%) patients and fever in 7 (16.7%) patients.

Character of pain in 42 patients was different. Out of 42 patients 27 (64.3%) patients had dull aching intermittent type of pain, 14(33.3%) patients had dull aching continuous and 1 (2.4%) patients had colicky type of pain in the right lower quadrant. So the predominant character of pain was dull aching, intermittent.

Histopathological examination Out 42 patients, 42(100%) patients had pathological signs of appendicitis. Out of 42 patients, 9(21.4%) patients were having acute inflammation and 33(78.55%) patients had chronic appendicitis.

42 patients underwent laparoscopic appendectomy . 92.9% (39) of the patients were completely pain free, only 3 (7.1%) did not improve after laparoscopic appendectomy. In 3 patients who had persistent of pain, 1 patients were male and 2 patients were female. P value is significant (<0.05).

Discussion:

Pain abdomen was the universal complaint present in all 42 patients (100%), vomiting was present in 12(28.6%) patients and fever in 7(16.7%) patients. Unlike acute appendicitis, no clinical characteristics that might aid in a diagnosis of chronic appendicitis (other than recurrent abdominal pain) have been identified. Signs and symptoms are less obvious than in acute appendicitis.⁴

In our study, histopathological examination of appendices revealed inflammation in 42(100%) of patients. Out of 42 patients, 9(21.4%) patients were having acute inflammation and 33(79.5%) patients had chronic appendicitis. et al conducted study between November 1995 and February 1998, 322 patients underwent appendectomy due to typical symptoms of appendicitis. Study concludes that three quarter of all patients with pain in the right lower quadrant but no significant signs of inflammation showed the histological criteria for chronic appendicitis. Compared to that, the macroscopic examination by the surgeon resulted in 93.5% specificity and a 77.8% sensitivity⁵. Criteria for chronic appendicitis include: symptoms lasting longer than 4 weeks, confirmation of chronic swelling through histopathological examination, improvement of symptoms after appendectomy⁶.

In Jamil A Fayez et al study, 63 patients who had appendectomy for chronic lower abdominal pain were reviewed. Histologically 92% of removed appendices revealed abnormality and 95% of these patients were completely cured. It is concluded that chronic appendicitis does exist and could be the cause of chronic lower abdominal pain⁷.

Krone and Sperke⁸ analysed 1718 prophylactic appendectomies during gynaecological operations and found histopathological proof of acute appendicitis in 8%. Moreover, signs of „chronic appendicitis“ were observed in an astonishing 65%.

Only 21% were considered microscopically normal. The clinical relevance of such a high percentage of pathological appendices in patients undergoing an „en passant appendectomy“ remains unclear. The lack of correlation between routine histopathology and clinical pain scores suggests the presence of a non-inflammatory pain pathway.

In our study, 92.9% (39) of the patients were completely pain free and only 3 (7.1%) patients are having persistent pain, whose proportion was significantly lower. The present data set provides circumstantial evidence that adds to the credibility of „chronic appendicitis“ as a separate clinical entity. Although the clinical data on pain relief following appendectomy are convincing, the histopathological results are difficult to understand in this context.

There was no correlation between pain and histopathological findings. Published figures on the correlation between symptomatology and histopathology are inconsistent.

Conclusion:

To conclude, Histopathology report showing Chronic Appendicitis is one of most important tool for diagnosis.

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