UNUSUAL PRESENTATION OF RECURRENT APPENDICITIS – A RARE CASE REPORT AND LITERATURE REVIEW

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ABSTRACT

Introduction: Chronic or recurrent appendicitis is a clinical entity in which a patient has chronic pain originating from the appendix and inflammation may or may not accompany it. This condition is categorized into chronic or recurrent appendicitis and appendiceal colic pain.

Case Presentation: A 46-year old male presented with complaints of intermittent abdominal pain for six months. Tenderness in the right iliac fossa on deep palpation was present. Ultrasonography showed an inflamed appendix with numerous adhesions and a large fecolith. He underwent laparoscopic appendectomy. The specimen was 6 cm in length and 3 cm in diameter; an appendix with a 3 cm diameter is rare. The histopathologic examination was consistent with recurrent appendicitis with lymphoid hyperplasia.

Conclusion: Chronic appendicitis is a clinical entity distinct from acute appendicitis in clinical presentation as well as histopathological appearances. Chronic appendicitis is diagnosed if a patient has had symptoms for more than four weeks, histopathological examination findings from specimen are typical, and the patient shows clinical improvement after the surgical removal of the appendix. Ultrasonogram, barium enema, and computerized tomography can help in diagnosis. In our case, the inflamed appendix had one of the largest diameters ever reported.

Keywords: Chronic/recurrent appendicitis, largest diameter, 3 cm diameter, dilated lumen

INTRODUCTION

Reginald Fitz was the first person to describe acute appendicitis in detail in 1889. Thereafter, our knowledge of appendicitis has significantly evolved.

In acute appendicitis, the main factor initiating the inflammatory sequence is luminal obstruction, which can occur due to fecoliths, lymphoid hyperplasia, seeds of vegetables and fruits, intestinal worms, viral infections (particularly in children), and, in rare instances, cancer (mostly in elderly population).

Once obstruction occurs, mucus secretion and inflammatory exudates increase, leading to higher lumen pressure, followed by the obstruction of lymphatic drainage. Bacterial invasion of the submucosa also occurs. Resolution can occur at this stage spontaneously or after antibiotic therapy.

Some patients with such features can continue to have low-grade abdominal pain for several weeks and can develop a clinical entity termed chronic appendicitis¹–⁴.

Others can present with recurrent episodes of abdominal pain after a symptomless period of weeks or months. This condition is a distinct clinical entity called recurrent appendicitis¹,⁴,⁵.

The severity of inflammation increases with the level of obstruction. The luminal capacity of a normal appendix is only 0.1 ml. As the distension continues after the multiplication of bacteria, it can result in reflex nausea and vomiting. The inflammation of serosa will cause...
pain in the abdomen to shift from the periumbilical region to the right iliac fossa. A progressive invasion of bacteria can lead to the infarction and perforation of the appendix. This sequence of events causes acute symptomatic presentation and this is the most common presentation of appendicitis, known as acute appendicitis. This is usually managed by emergency appendectomy.

Chronic or recurrent appendicitis is also eventually managed with appendectomy and the diagnosis is made retrospectively after the histopathological evaluation of the specimen and symptomatic relief after appendectomy.\textsuperscript{1,3–6}

**CASE REPORT**

A 46-year old male with no known comorbidities presented to the internal medicine physician with recurrent lower abdominal pain (three episodes in the last six months). On examination, a left iliac fossa mass was noticed, and the patient was advised to undergo colonoscopic evaluation. Colonoscopy showed external pressure on the descending colon. Moreover, umbilical herniation was present. Ultrasonography revealed a right iliac fossa mass and suggested a CT scan evaluation for the diagnosis. The CT scan showed a markedly distended appendix with a maximum diameter of 24 mm and a large rounded calcified shadow within measuring 20 × 18 mm, suggestive of a calcified appendicolith. Subtle haziness in the surrounding fat planes was observed. A reactionary abdominal lymph node enlargement was noted. A surgical consultation of the case was done for further management.

All routine blood investigations were normal.

The patient underwent laparoscopic appendectomy under general anesthesia. Peroperative findings include an inflamed and a bloated appendix, round at the tip and 30 mm in diameter. There were numerous hard adhesions between the mesoappendix and the left mesocolon as well as hard adhesions between the tip of the appendix and the mesocolon. The postoperative period was uneventful and the patient was discharged on the second postoperative day.

**Histopathology Report**

The gross and microscopic examinations are consistent with the diagnosis of recurrent appendicitis with lymphoid hyperplasia.

**Figure 1. Histopathology report**

| Nature of Specimen: Appendix |
| Date of Procedure: 05.10.2013 |
| Date of receipt of specimen: 06.10.2013 |
| Fixative used: Formalin |

**Summary of Clinical Data: Cts pain in abdomen off and on since 6 months. Tenderness in RIF on deep palpation. USG: Appendix Inflamed with lots of adhesions, Appendicolith? Chronic appendicitis.**

**GROSS EXAMINATION:**

Received appendix 6 cm in length and 3 cm in diameter, cut end blunt, base adherent with fecal material. 3 sections are submitted in two cassettes.

**MICROSCOPIC EXAMINATION:**

Sections from appendix reveal dilated lumen filled with vegetative material with marked mucosal distortion and ulceration. Mucocele and Submucous shows chronic inflammatory cell infiltrate predominantly consisting of lymphocytes, significant number of eosinophils and lymphoid hyperplasia along with replacement of wall with adipose tissue and prominent ganglion cells in muscular layer. Stroma shows congestion, edema.

**DIAGNOSIS:**

 Appendix, Appendectomy:  
- Consistent with Recurrent Appendicitis with lymphoid Hyperplasia.

**Figure 2. Laparoscopic photo: arrows – distended appendix**

**Figure 3. Laparoscopic photo (large arrows: distended end of appendix; small arrows: base of appendix)**
DISCUSSION

Acute appendicitis is a common cause of emergency operations. The appendiceal lumen becomes obstructed and, therefore, the appendix distends and becomes inflamed. In some cases, this over-distended wall can perforate and the inflammation can spread through the peritoneum. In other cases, there is formation of phlegm on which adhesions are held among the peripheral tissue6,7.

Acute appendicitis usually presents within 48 hours of periumbilical pain localized to the right iliac fossa. This will be accompanied by fever, nausea, vomiting, abdominal guarding, and rebound tenderness. The complete blood count will increase, with neutrophils being predominant. The diagnosis is usually based on clinical history, examination, laboratory investigations, and imaging modalities (such as ultrasonogram and CT scan of abdomen)6–11.

Typically, acute appendicitis is managed with the surgical removal of the inflamed appendix through laparotomy or laparoscopy.

In some cases, patients experience one or several episodes of acute appendicitis lasting 1–2 days, which subsides by itself; this is termed as recurrent appendicitis1. 4–6. Chronic appendicitis presents as continuous, less intense abdominal pain, which may last weeks or months or even years1–4.

The exact etiology is unknown, but it is believed that recurrent appendicitis results from the transient obstruction of the lumen, while chronic appendicitis occurs due to the continuous partial obstruction of the lumen3, 6, 7. The causes of obstruction in the lumen include fecolith, lymphoid hyperplasia, tumors, foreign bodies, luminal secretions, and appendiceal folding6,7.

Pathological examination usually reveals chronic inflammation with aggravation and infiltration of lymphocytic and eosinophilic accumulation, granulomatous reaction, fibrosis, and, sometimes, foreign body giant cell reaction6, 7. The patients with carcinoma have pathological changes consistent with carcinoma.

Imaging modalities used to diagnose chronic or recurrent appendicitis include: 1) barium enema, which can reveal partial/nonfilling of lumen; 2) ultrasonography, which can show a dilated, noncompressible appendix more than 6 mm in diameter with or without associated fecolith or abscess formation; and 3) CT scan, which can reveal a dilated appendix with periappendiceal fat stranding, appendiceal wall thickening and surrounding edema, calcified appendoliths, abscess, phlegmon, and inguinal lymphadenopathy9–12. The accuracy of a CT scan in diagnosing appendicitis is 93–98%6, 7.

In our case, the patient had three episodes of moderate abdominal pain over six months. His routine blood reports were normal. Colonoscopy showed external pressure. The CT scan revealed a markedly enlarged appendix with an appendicolith inside and reactionary lymphnode enlargement. 6–8, 13. His histopathology reports were consistent with a diagnosis of recurrent appendicitis with lymphoid hyperplasia14. The diameter of the appendix was 3 cm; an inflamed appendix with a diameter more than 2.5 cm is rare9, 10–12.

CONCLUSION

Based on the literature review, our case is an example of recurrent appendicitis with an appendiceal diameter of 3 cm, a rare
presentation9–12. The condition was managed with laparoscopic appendectomy. The postoperative period was uneventful. A follow-up revealed the patient was relieved of his symptoms.

REFERENCES