

Letters to the Editor

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In general, authors of case reports should use the Letter to the Editor format.

A Rare but Important Cause for Appendicitis: Actinomyces

To the Editor:

Actinomyces is a chronic infectious disease induced by *Actinomyces israeli* with the capability of causing abscess and fistulae. Although frequently seen in the mouth-chin region, it can manifest in the thorax and abdomen. Compromised abdominal wall integrity in the gastrointestinal system and the presence of an intrauterine device (IUD) facilitates the development of intra-abdominal infections.¹ We present an actinomyces related appendicitis case because of its rarity and need for additional treatment.

A 33-year-old female patient presented to our hospital with complaints of abdominal pain that had intensified over the previous 3 days. Examination identified tenderness in the lower right quadrant. Leukocyte was 7200 with a little bacteria in the urine tests. The direct abdominal X-ray did not reveal any pathology. The ultrasound revealed minimal fluid collection in the Douglas pouch. The gynecological examination did not reveal any pathology explaining the pain. The patient did not have an IUD. The patient was observed and given Cefazolin (Bilim Ilac Sanayi ve Ticaret AS, Istanbul, Turkey) 1 gram flacon Dikloron (Deva Holding, Istanbul, Turkey) ampule. The patient was later discharged to her home after complaints receded but would have been kept under observation as an outpatient. The patient returned the next day with complaints that the pain was increasing and was reexamined. The ultrasound identified 8 mm thickness in the lower right quadrant of the appendix coherent with nonperistaltic appendicitis. The patient was operated upon with a diagnosis of appendicitis. The appendicitis was in the gangrenous stage and was inflamed during surgery. A laparoscopic appendectomy was performed. The patient was discharged without complications a day after surgery. The patient

returned for a follow-up visit 1 week later and the stitches were removed. The presence of actinomyces in the appendix histopathology led to a consultation from infectious diseases. The patient was prescribed 4 months of medication treatment but was only able to take Ceftriaxone (Roche, Istanbul, Turkey) 1 gr 1 × 1 for 6 weeks and Largopen (Bilim Ilac Sanayi ve Ticaret AS, Istanbul, Turkey) 1 gram tablet 2 × 1 for 8 weeks. The treatment was terminated due to the development of gastrointestinal candidiasis. At the end of the first year, the patient had not experienced a recurrence or any complications.

Actinomyces israeli is an anaerobic bacteria present in the flora of the respiratory system, the gastrointestinal system, and female genital organs. It can cause infection if tissue integrity is damaged. Chronic, insidious actinomyces with abscess and fistulae can develop. Inside the abdomen it is most frequently seen in the appendix, cecum, and female genital organs. Long-term use of IUD,¹ diverticulum, and appendix perforation² make the development of abdominal actinomyces more likely. Actinomyces related primary appendicitis is a rare condition. Although clinical symptoms resemble acute appendicitis it may have an insidious course and hence, months may pass between the first complaint and diagnosis.³ Delayed diagnosis or treatment may cause patients to seek medical attention with inner abdominal masses, abscesses, and fistulae.^{2, 3} Sometimes masses may be mistaken for tumors.

Generally it is impossible to diagnose actinomyces cases before surgery. Blood tests, ultrasounds, and CT scans are the most common diagnostic methods. CT is the foremost tool in diagnosing actinomyces related mass or abscess.^{1, 2} Needle biopsy may be utilized for preoperational diagnosis of mass and abscess. It has been reported that actinomyces related abscess diagnosed with preoperational needle biopsy has been treated nonsurgically using percutaneous drainage and antibiotics.³

Macroscopic appearance of the appendix would either be in the form of an inflamed appendix or peripendicular abscess, or the omentum surrounded

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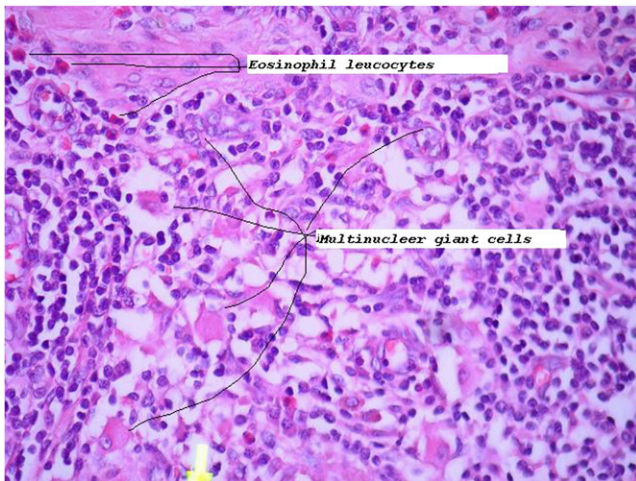


FIG. 1. Multinuclear giant cells and eosinophil leucocytes, H&E $\times 400$.

mass or tumor.^{2, 3} Histopathological examination of appendix is required for definitive diagnosis. Observation of sulphur granules in histopathology confirms the diagnosis. The case presented was considered to have macroscopic appearance actinomyces and actinomyces was determined in the post surgical histopathological examination. Definitive diagnosis of actinomyces after surgery is made with histopathological examination. Bacterial related complications might develop if actinomyces cannot be identified with histopathology after appendectomy.²

Appendectomy will suffice as treatment assuming that there is no abscess or fistula in actinomyces related appendicitis. However, as actinomyces is a chronic illness causing fistulae penicillin, treatment is recommended for 2 to 12 months after surgical treat-

ment. Postsurgical pathological examination or medication treatment for actinomyces is necessary to prevent potential development of inner-abdominal actinomyces abscess and fistulae.² Debridement and drainage may be performed by laparotomy if abscess or fistulae develop; alternatively percutaneous drainage and antibiotic treatment may be given.³

The cecum and appendix may be resected together⁴ or a right hemicolectomy may be performed if actinomyces develops an abscess mass invading the appendix and cecum. Ovariectomy may be performed if ovaries are involved in the pathology.¹ Actinomyces related appendicitis is broad and seen in both sexes between the ages of 13 and 83.

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REFERENCES

1. Peitsidis P, Papadimitriou C, Rodolakis A, et al. Actinomyces of the appendix and pelvis: a case report. *J Reprod Med* 2008; 53:711–3.
2. Castillenti TA, Conklin CR. Actinomyces: an unusual complication following appendicitis. *J Am Osteopath Assoc* 1990; 90:269–73.
3. Goldwag S, Abbitt PL, Watts B. Case report: percutaneous drainage of periappendiceal actinomyces. *Clin Radiol* 1991;44: 422–4.
4. Habib E, Aoura T, Mekkaoui M, et al. Actinomyces of the appendix. Report of two cases. *Rev Med Interne* 2002;23:638–41.

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