

Tuberculous Appendicitis: Report of the 2 Cases

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Tuberculosis (TB) remains an important health problem in Thailand. WHO reported that Thailand is one of the three countries that will have a TB high burden (TB incidence, multidrug-resistant [MDR]-TB incidence, and TB/HIV incidence) between 2016 and 2020. The predicted incidence of tuberculosis in Thai population is 172 per 100,000 and the success rate of treatment is only 80%.

Gastrointestinal tuberculosis is a relatively rare form of extrapulmonary tuberculosis. An incidence rate of 1.5% to 3% has been reported. The most common affected part is ileocecal region, and its involvement on appendix is extremely rare.

The author reported two cases of tuberculous appendicitis, the first one presented with clinically of acute appendicitis and the second one presented with obstructed CA colon.

Keywords: Tuberculous appendicitis, TB appendix, Gastrointestinal tuberculosis

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Tuberculosis (TB) remains an important health problem in Thailand. World Health Organization (WHO) reported that Thailand is one of the three countries that will have a TB high burden (TB incidence, multidrug-resistant [MDR]-TB incidence, and TB/HIV incidence) between 2016 and 2020. The predicted incidence of TB in Thai population is 172 per 100,000 and the success rate of treatment is only 80%⁽¹⁾.

Gastrointestinal TB is a relatively rare form of extrapulmonary TB. The incidence of 1.5% to 3%⁽²⁾ has been reported. The most common affected part is ileocecal region, and it is extremely rare that the appendix is involved.

The author reported two cases of tuberculous appendicitis.

Case Report

Case 1

A 22-year old male presented with right lower quadrant abdominal pain for two days. He had no symptom of nausea or vomiting. Physical examination

revealed normal vital signs, mark tenderness, and voluntary guarding at McBurney's point. Initial blood tests showed leukocytosis (14,100 cells/mm³), otherwise, were within normal limit. He was diagnosed as acute appendicitis and underwent emergency surgery.

On peritoneal cavity exploration through Lanz incision, a retrocecal appendiceal abscess was found. No abnormal pathology was detected in the ileum and cecum. Appendectomy was performed, and the specimen was submitted to histopathological examination.

Gross examination revealed brownish inflamed congested appendix measuring 11 cm in length. Microscopic examination showed fibromuscular thickening of the wall with acute and chronic inflammatory cells infiltration with foci of caseating granulomas and necrosis as shown in Figure 1 and 2.

After the diagnosis of tuberculous appendicitis was made, the primary source of TB was checked. Chest X-ray showed a minimal infiltration of left lower lung (as shown in Figure 3) and sputum examination was positive for acid fast bacilli. Anti-tuberculous medication was prescribed with conventional regimens including four drugs (isoniazid, rifampicin, pyrazinamide, and ethambutol) for nine months (2IRZE/7IR). After anti-tuberculous medication was started, patient requested to receive continuous treatment at his hometown hospital.

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Figure 1. Low power of microscopic examination (4x) of histopathologic section of case 1.

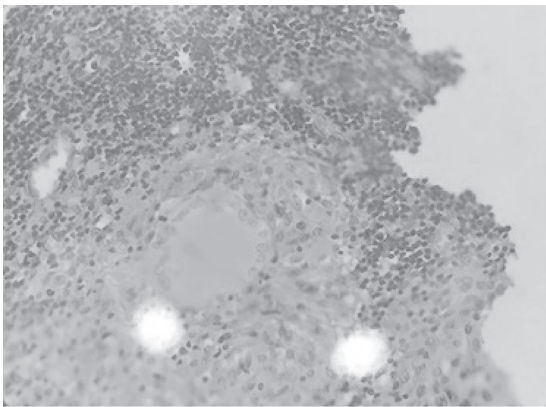


Figure 2. High power of microscopic examination (40x) of histopathologic section of case 1.

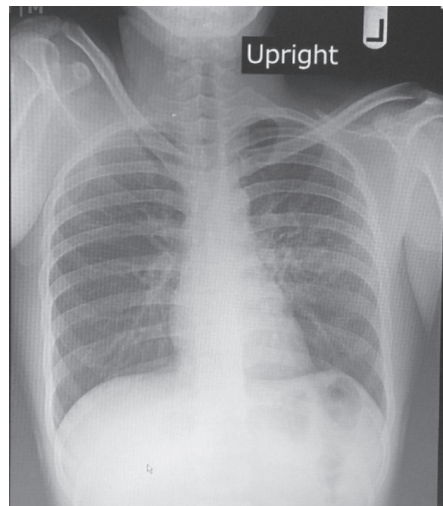


Figure 3. Chest X-ray of case 1 showed infiltration in left lung.

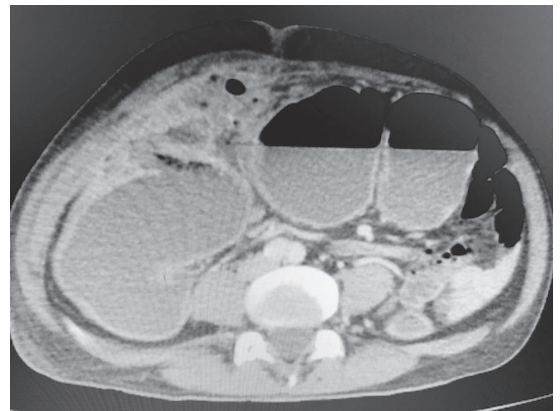


Figure 4. CT scan of abdomen of case 2 showed abdominal wall abscess adjacent to the cecum.

Case 2

A 51-year old male had history of bowel habit change and abdominal distension for one month. He lost weight about 10 kilograms in the last one month. His abdominal computed tomography (CT) scan showed circumferential wall thickening at proximal descending colon, causing partial small bowel obstruction. An 8.0×1.7×6.8 cm intraabdominal abscess at anterior aspect of right sided abdomen with suspected adjacent extraluminal free air was demonstrated as shown in Figure 4 and 5.

The diagnosis of obstructed descending colonic cancer with suspected perforated cecum with intraabdominal abscess was made. Therefore,

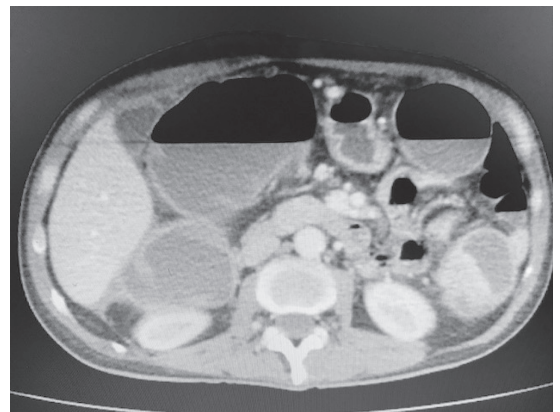


Figure 5. CT scan of abdomen of case 2 showed descending colonic tumor.

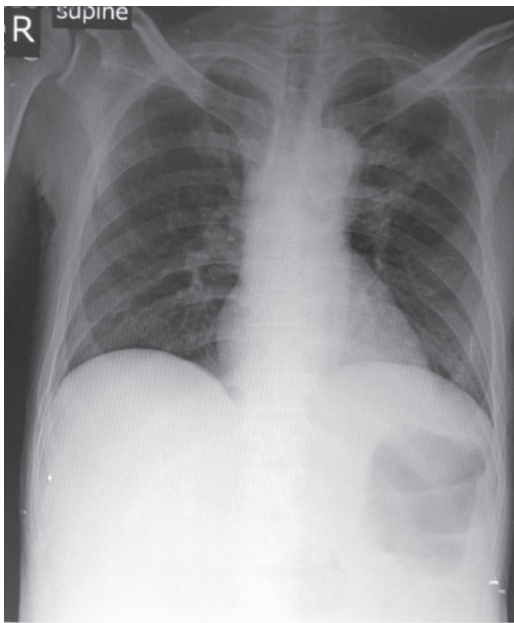


Figure 6. Chest X-ray of case 2 (pre-treatment of tuberculosis) showed left upper lung infiltration.

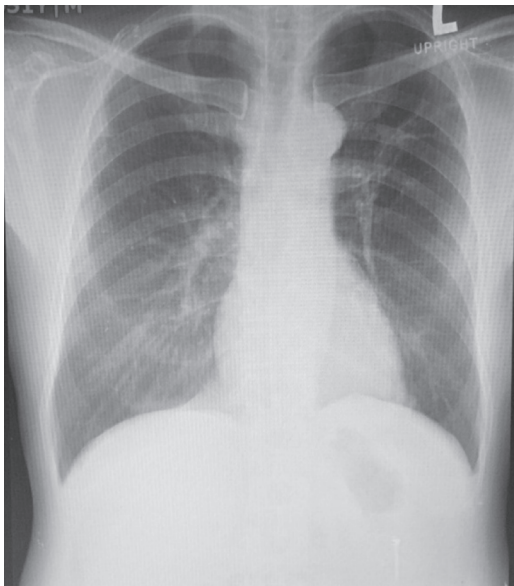


Figure 7. Chest X-ray of case 2 (post-treatment of tuberculosis) showed improvement of left upper lung infiltration.

patient was informed of the emergency exploratory laparotomy.

On abdominal exploration, obstructed descending colon cancer was suspected. Cecal perforation with adjacent anterior abdominal wall abscess

was identified. Subtotal colectomy with primary anastomosis was done.

Histopathological examination of resected specimens showed obstructed colonic cancer concomitant with caseating granulomatous inflammation of bowel wall, appendix, and lymph nodes. The pathologist suggested TB.

Chest X-ray showed infiltration at left upper lung as shown in Figure 6. However, his sputum for acid fast bacilli was negative.

The patient was diagnosed as obstructed colonic cancer with ileocecal and pulmonary (acid fast bacilli negative) TB. Anti-tuberculous medication was prescribed with conventional four drugs regimen for nine months (2IRZE/7IR). After treatment, patient was clinically and radiologically improved (as shown in Figure 7) and was discharged from TB clinic after nine months.

Discussion

Gastrointestinal TB is a relatively rare form of extrapulmonary TB. The reported incidence is only 1.5% to 3%⁽²⁾. The most common affected part is ileocecal region. However, involvement of appendix is extremely rare, accounting for 0.6% of all surgically removed appendix⁽³⁾.

The pathogenesis of tuberculous appendicitis is still unclear. Singh et al categorized tuberculous appendicitis into primary and secondary involvement. Primary involvement is due to direct contact of infected intestinal contents or results from hematogenous spreading of bacteria from distant foci, which is not clinically detectable. Secondary involvement is due to local extension of ileocecal TB, retrograde lymphatic spreading from distant lesions in the ileum or ascending colon, or appendicular serositis/peri-appendicitis in peritoneal TB⁽³⁾. The first case was suspected to be primary involvement resulting from pulmonary TB. However, the second case is likely to be secondary involvement from the local extension of ileocecal TB.

The clinical presentation of acute tuberculous appendicitis is similar to that of acute appendicitis including right iliac fossa pain (100%), fever (80%), and anorexia (60%)(4). Diagnosis of acute tuberculous appendicitis is made only by histopathological examination of resected appendiceal specimen in most of the previous studies^(2,5-10). The author recommended that all resected appendix should be submitted for histological examination.

It is important to look for an immune-compromised status such as HIV infection due to the increasing

incidence of concomitant infection of TB and HIV in Thailand (12%)⁽¹⁾. The present two patients had negative HIV serology test.

The management of acute presentation of tuberculous appendicitis is appendectomy. In fact, it is extremely rare to make a diagnosis preoperatively. Searching for other affected body part of tuberculous infection should be routinely done. Anti-tuberculous medication should be started as soon as possible after the diagnosis was confirmed.

Conclusion

There is no pathognomonic clinical presentation of tuberculous appendicitis. Preoperative diagnosis is almost impossible. The author recommended that all resected appendiceal specimen should be submitted to histopathological examination. Once diagnosis of tuberculous appendicitis is made, anti-tuberculous regimens should be started as soon as possible.

What is already known on this topic?

There is no pathognomonic clinical presentation of tuberculous appendicitis. Preoperative diagnosis is almost impossible.

What this study adds?

The author recommended that all resected appendiceal specimen should be submitted for histopathological examination.

Once diagnosis of tuberculous appendicitis is made, anti-tuberculous regimens should be started as soon as possible.

Potential conflicts of interest

The author declares no conflict of interest.

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