

## Omental actinomycosis with torsion of the greater omentum : A case report

Mongkhon Phattharathiwanon\*

**Phattharathiwanon M. Omental actinomycosis with torsion of the greater omentum: A case report.. Chula Med J 2008 Mar – Apr; 52(2): 123 - 7**

*Omental actinomycosis abscess with torsion of the greater omentum is extremely rare. In this report, a 67-year-old man with the complaint of severe abdominal pain was operated under the suspicion of localized peritonitis. A midline incision was performed and revealed torsion of the greater omentum with large abscess (infected with Actinomycocetes spp.). Omentectomy was performed and penicillin was given orally after the operation.*

*To our knowledge, this is the first case report of the greater omental torsion with actinomycosis infection.*

**Keywords:** *Omental actinomycosis, Torsion of the greater omentum.*

Reprint request : Phattharathiwanon M. Department of Surgery, Sisaket Hospital, Sisaket Province, Thailand 33000.

Received for publication. February 18, 2008.

**มงคล ภัทรทิวานนท์. การบิดตัวของ greater omentum ร่วมกับการติดเชื้อ actinomycosis :  
รายงานผู้ป่วยกรณีศึกษา. จุฬาลงกรณ์เวชสาร 2551 มี.ค.-เม.ย; 52(2): 123 - 7**

รายงานกรณีศึกษาผู้ป่วยชายอายุ 67 ปี มาโรงพยาบาลด้วยอาการปวดท้องอย่างรุนแรงและ  
เยื่อช่องท้องอักเสบ หลังจากทำการผ่าตัดช่องท้องพบฝีขนาดใหญ่ และมีการบิดตัวของ greater  
omentum ผลการตรวจชิ้นเนื้อพบที่มีการติดเชื้อ Actinomycocetes spp. ผู้ป่วยได้รับการรักษาโดย  
ตัด omentum และได้ยากุ่มเพนนิซิลินไปรับประทานที่บ้าน ซึ่งเป็นผู้ป่วยที่มีการบิดตัวของ greater  
omentum ร่วมกับการติดเชื้อ actinomycosis รายแรกที่ได้รับการรักษาและรายงาน

**คำสำคัญ :** Omental actinomycosis, การบิดตัวของ greater Omentum

Actinomycosis is a chronic bacterial infection. The most common clinical of actinomycosis is cervicofacial. In women, however, pelvic actinomycosis is possible. Actinomycetes are prominent among the normal flora of the oral cavity but less prominent in the lower gastrointestinal and female genital tracts. These companion bacteria appear to act as copathogens that enhance the relatively low invasiveness of actinomycetes. Specifically, they may be responsible for the early manifestations of infection and treatment failure. Actinomycosis of the abdomen and pelvis are accounted for 10 – 20 % of reported cases. Pelvic actinomycosis most commonly occurs by along the ascending route from the uterus in association with intrauterine contraceptive devices (IUDs). Generally, actinomycosis occurs worldwide among people with low socioeconomic status and poor dental hygiene. Greater omentum actinomycosis is extremely rare, and torsion of the greater omentum is an uncommon cause of acute abdominal pain. Preoperative diagnosis is usually very difficult, it is commonly diagnosed after surgery. This report presents torsion of the greater omentum who presented with actinomycosis omental abscess.

### Case Report

A 67-year-old man was referred to the emergency room of Sisaket Hospital with a complaint of severe abdominal pain in the upper abdomen for two days prior to admission. He was classified according to the American Society of Anesthesiologists as physical status II. His past medical history was diabetic mellitus type II; he had neither history nor evidence of physical trauma.

On physical examination, his vital signs were stable. The abdomen was tender generally with

voluntary guarding on the upper abdomen with hyperactive bowel sound. Free air could not be seen on the acute abdomen films. He was resuscitated with intravenous fluids before being taken to the operating room. Since the preoperative diagnosis was peritonitis, the patient was given prophylactic antibiotics.

After a standard midline incision was performed, operative findings revealed torsion of the greater omentum with a large abscess (size 12.2 x 5.0 x 3.0 cm<sup>3</sup>) (Figure 1), and serosanguinous fluid. Partial omentectomy was performed.

Postoperative period was uneventful. He was discharged from hospital seven days later. During his revisit to the Out - Patient Department one month later, the patient was treated with oral amoxicillin 500 mg every 6 hrs for 6 months. Long-term follow up showed no recurrent. Surgical pathology report is shown in Figure 1.

### Gross examination:

Received in formalin fixed specimen consists of an adipose nodule covering with clotted blood tissue 12.2 cm x 5.0 cm x 3.0 cm. The cut surfaces show abscess area surrounding with fibrous area and opened tan area.

### Histological examination:

The section of fatty tissue reveals numerous neutrophils and cell debris with colonies of Actinomycetes spp. (as Figure 2)

### Pathological diagnosis:

Omentum, biopsy:-

Acute suppurative inflammation and colonies of microorganism morphologically consistent with Actinomycetes spp.( Figure 2)

No granulomatous lesion or malignancy was found.



**Figure 1.** Shows torsion greater omentum with large abscess



**Figure 2.** Shows cell debris with a colony of Actinomyces spp.

Diagnosis: The greater omental torsion with actinomycosis infection.

## Discussion

Omental actinomycosis is extremely rare. It can mimic multiple disease processes. In general, the preoperative diagnosis of abdominal actinomycosis is very difficult, it usually can be diagnosed after surgery.<sup>(1-3)</sup> An accurate diagnosis is almost always obtained from histological or microbiological examination.<sup>(1)</sup> Most patients are female and many articles report that intrauterine devices (IUD) were

associated with this infection.<sup>(4,5)</sup> Actinomycosis of the abdomen and pelvis are accounted for 10-20 % of reported cases. Typically, patients have a history of recent or remote bowel surgery (e.g., perforated acute appendicitis, perforated colonic diverticulitis following a trauma to the abdomen) or ingestion of foreign bodies (e.g, chicken or fish bones), during which actinomycetes is introduced into the deep tissues, and the disease classically presents as a slowly growing tumor. Diagnosis is usually established postoperatively, following exploratory laparotomy for a suspected malignancy. Treatments of abdominal actinomycosis are resection with high dose of oral penicillin several weeks postoperatively.<sup>(1,5,6)</sup> Most patients are free of recurrence.<sup>(4)</sup> In pelvic actinomycosis, intravenous penicillin is the treatment of choice without requirement of surgery.<sup>(4,5)</sup> When actinomycosis is diagnosed early and treated with appropriate antibiotic therapy, the prognosis is excellent.

Greater omentum torsion is an uncommon cause of acute abdominal pain, often mimicking other acute abdominal conditions.<sup>(7)</sup> It commonly affects obese males, and its etiology is unclear. There are a few published reports concerning the diagnostic imaging of the torsion of the greater omentum because it is not usually diagnosed before operation. The most common preoperative diagnosis is acute appendicitis. Sometimes ultrasonography and computed tomography (CT) scan can establish the preoperative diagnosis. On the other hand, laparoscopy is of great help for the diagnosis and treatment.<sup>(8)</sup> Resection or partial omentectomy of infarcted segment is the treatment of choice.

## Conclusion

A case of torsion greater omentum with omental actinomycosis infection that occurred in 67-year-old man who was admitted and treated at Sisaket Provincial Hospital. To our knowledge, this is the first ever case report of torsion of the greater omentum actinomycosis.

## References

1. Sumer Y, Yilmaz B, Emre B, Ugur C, Abdominal mas secondary to actinomyces infection: an unusual presentation and its treatment. J Postgrad Med 2004 Apr-Jun; 50(2):115-7
2. Tega S. Diagnosis and therapy of peclvic actinomycosis. J Obstet Gynaecol Res. 2007 Dec; 33(6): 882-5
3. Cintron JR, Del PA, Duarte B, Wood D. Abdominal actinomycosis. Dis Colon Rectum 1996 Jan; 39(1): 105-8
4. Wagenlehner FM, Mohren B, Naber KG, Mannl HF. Abdominal actinomycosis. Clin Microbiol Infect 2003 Aug; 9(8): 881-5
5. Meyer P, Nwariaku O, McClelland RN, Gibbons D, Leach F, Sagalowsky AI, Simmang C, Jeyarajah DR. Rare presentation of actinomycosis as an abdominal mass: report of a case. Dis Colon Rectum 2000 Jun; 43(6): 872-5
6. Diaz-Oller J, Tutosaus-Gomez JD, Medina-Dominguez T, Arcos-Navarro A, Barranco-Garcia JD, Alia-Diaz JJ, Asanza-Liorente JA, Flores-Arcas R, Flores-Arcas A, Munoz-Rodriguez A, et al. Mesenteric actinomycosis with retroperitoneal involvement. Int Surg 2001 Jan-Mar; 86(1): 57-61
7. Young TH, Lee HS, Tang HS. Primary torsion of the greater omentum. Int Surg 2004 Apr-Jun; 89(2): 72-5
8. Poujade O, Ghiles E, Senasli A. Primary torsion of the greater omentum : case report—review of literature: diagnosis cannot always be performed before surgery. Surg Laparosc Endosc Percutan Tech 2007 Feb; 17(1): 54-5