

CONTINUING MEDICAL EDUCATION ΣΥΝΕΧΙΖΟΜΕΝΗ ΙΑΤΡΙΚΗ ΕΚΠΑΙΔΕΥΣΗ

Medical Imaging Quiz – Case 6

A 51-year old male presented with a one-month history of abdominal pain and diarrhea (2–3 episodes daily, with blood [red coloured] in the feces). He also had hemorrhoids, and so he thought that these were the reason for the blood.

On CT scanning of the whole abdomen, an inflammatory mass with cystic and solid characteristics was seen, arising from the region of the caecum and appendix and extending to the peritoneum and right iliopsoas muscle. CT also showed lymphadenopathy next to the mass (figures 1–5).

The patient underwent resection of the diseased bowel (right hemicolectomy and ileotransverse anastomosis occluded).

Histological examination of the operational specimen showed actinomycosis lesions of the perienteric fat, consisting of a severe granulomatous reaction with many histiocytes, polykaryocytes and giantocytes. The lesions arose from a region of perforated diverticulum. The lymph nodes next to the lesion showed cortex hyperplasia.

ARCHIVES OF HELLENIC MEDICINE 2009, 26(2):278–279
ΑΡΧΕΙΑ ΕΛΛΗΝΙΚΗΣ ΙΑΤΡΙΚΗΣ 2009, 26(2):278–279

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Figure 1. CT of the abdomen. Mass at the terminal ileum invading the surrounding mesenteric fat.



Figure 2. CT of the abdomen after intravenous contrast medium. Mass at the terminal ileum invading the surrounding mesenteric fat.



Figure 3. CT of the abdomen after intravenous contrast medium (lower level). Mass at the terminal ileum invading the surrounding mesenteric fat. Haziness of the paranephric fat.



Figure 4. CT of the abdomen after intravenous contrast medium. Mass which uptakes contrast medium, infiltrating the right iliopsoas muscle.



Figure 5. CT of the abdomen after intravenous contrast medium. Mass which uptakes contrast medium, infiltrating the right iliopsoas muscle.

Comment

Abdominal actinomycosis may mimic cancer or inflammatory bowel disease. It is difficult to diagnose preoperatively, and often requires surgical removal of the diseased tissue. It is a chronic progressive disease caused by *Actinomyces israelii*, an anaerobic, Gram-positive bacteria, which is often found as a harmless saprophyte in the oral cavity and gastrointestinal tract (always at the appendix and colon).

These organisms are opportunistic human pathogens. It seems that infection occurs after the mucosal surface is breached by disease, perforation or trauma. When the mucosal barrier is broken, actinomyces may cause multiple abscess formation, draining sinuses, abundant granulation, dense fibrous tissue, abdominal involvement (in 20% of cases), or mass lesion (rarely).

The clinical features of the infection depend on the organ that involved. The most common symptoms are fever and leukocytosis. Early diagnosis is very important to minimise the morbidity of this disease and the treatment of choice is high dose intravenous penicillin.

Direct spread into adjacent tissue is commonly the primary route of propagation after penetration of the organism through the mucosal barrier. Therefore infiltration has been well described as one of the important radiological characteristics of this infection.

Computed tomography (CT) is useful for determining the anatomical relationships of the disease and for monitoring the effectiveness of treatment.

CT scanning can show bowel wall thickening (concentric or eccentric), bowel contrast enhancement (homogenous or heterogeneous), perienteric infiltration, the presence of a mass

(cystic, predominantly cystic, mainly solid or solid), lymphadenopathy, the presence of ascites, and bowel obstruction.

This case shows that when an infiltrative and inflammatory mass is detected on CT, the differential diagnosis must include abdominal actinomycosis.

References

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