A rare complication of Crohn disease: iliopsoas abscess
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Patient: 21 years, male

Clinical History:
A young patient affected by Crohn disease since the age of 15 was hospitalized with complaint of progressive weight loss (estimated at 15 kg during the last year), fever, subocclusion and pain radiating along his right leg during the last few days.

Imaging Findings:
Despite his long-standing history of Crohn disease, the patient had never been previously treated surgically. Recently, he had spontaneously discontinued his chronic medical treatment with azathioprine. Physical examination described bulging and tenderness in the right lower quadrant and loss of strength in his right leg. Laboratory tests yielded anaemia and raised inflammatory markers (WBC 21.500/mmC, CRP 201 mg/L). Urgent contrast-enhanced CT examination, requested to investigate suspected Crohn disease complications, was completed with multiplanar reformations. The distal ileum and caecum demonstrated features consistent with active inflammatory bowel disease, including thickened, enhancing and stratified walls, mesenteric hyperdensity and hypervascularization with small lymph nodes. Large, communicating abscess collections with peripheral enhancement involved the right ileal and psoas muscles extending ventrally to the abdominal wall and inguinal region. Percutaneous aspiration yielded 600 cc of purulent fluid whose cultures were positive for multiple enteric pathogens.

Post-drainage CT-enteroclysis (through naso-jejunal intubation) documented satisfactory reduction of the abscess cavity with subtotal disappearance of its fluid and gaseous contents, and persistent enhancement. After antibiotic therapy, the patient underwent elective surgery with resection of involved ileo-cecal tract, ileo-enteric and ileo-parietal fistulas. Gross pathology described typical appearance of markedly active Crohn disease with thickened walls, “cobblestone” mucosa, ulcerations and fistulas. Microscopically, the thickened ileum walls were involved by transmural acute and chronic inflammatory infiltrate with deep ulcerations and extension into the perivisceral tissues. After clinico-laboratory resolution and patient discharge, post-surgical CT demonstrated resolution of the abscess lesion with disappearance of enhancing walls, normal-sized psoas and iliac muscle mildly enlarged.

Discussion:
An iliopsoas abscess is usually secondary to infectious spread from the bowel (mostly due to appendicitis, diverticulitis, Crohn disease or perforated colon neoplasm), the kidney (as in perinephric infections) or from spine and pelvic osteomyelitis. Currently, primary (due to infection by opportunistic organisms) and tubercular iliopsoas abscesses are rare and mostly occurring in immunocompromised patients. Usually found in medical literature as single case-reports, iliopsoas abscess is one of the rarest acute complications of Crohn disease that accounts for less than 1% of cases in reported surgical series. The characteristic transmural inflammatory process explains the formation of both internal and external intestinal fistulae: sinus tracts can penetrate not only into other bowel segments, the bladder and perineal structures, but also posteriorly in the...
retroperitoneal space leading to iliopsoas abscess formation.

Although uncommon, iliopsoas abscess complicating Crohn disease represents a potentially serious condition, which presents diagnostic and therapeutic challenges. Usually diagnosed in patients with a long history of inflammatory bowel disease, iliopsoas abscesses may occur at different time points in the disease course and may exceptionally represent the dominant clinical picture. Currently, Crohn disease has to be considered as a possible underlying condition for iliopsoas abscesses diagnosed in young people, especially when enteric organisms are cultured.

The clinical presentation is often nonspecific, resulting in a delayed diagnosis. Symptoms and signs include fever, malaise, lower abdominal or flank pain and tenderness; gastrointestinal symptoms may be absent; careful physical inspection may reveal hip contracture and limb pain. Moreover, iliopsoas abscess may be further complicated by septic sacro-ileitis or hip arthritis.

Abscesses may be recognized as hypo- or anechoic collections with ultrasonography, but CT and less frequently MRI represent the mainstay for the diagnosis of retroperitoneal lesions. On CT scans, the abscess appears as enlargement and hypodensity of the involved iliopsoas muscle in comparison with the contralateral one. Secondary findings include obliteration of the surrounding fat planes, ipsilateral fascial fluid, gas bubbles and sometimes erosion of the adjacent bone. The lesion typically displays inhomogeneous peripheral enhancement after intravenous contrast injection. At MRI abscesses demonstrate hypointense signal on non-enhanced T1-weighted and hyperintensity on T2-weighted sequences, and a similar “rim” enhancement pattern.

Conservative treatment includes the administration of antibiotics and total parenteral nutrition. Recently, Infliximab has been used for induction and maintenance of remission, but medical therapy carries a high risk of infectious relapse. Surgical therapy addresses abscess drainage and resection of the fistulizing affected bowel segment.

**Differential Diagnosis List:** Iliopsoas abscess in Crohn disease.

**Final Diagnosis:** Iliopsoas abscess in Crohn disease.

**References:**


Figure 1

Description: Unenhanced (viewed at lung window): involvement of right iliac and psoas muscles by communicating, peripherally enhancing abscesses. Adjacent known ileocecal Crohn disease. Origin:

Description: Post-contrast: involvement of right iliac and psoas muscles by communicating, peripherally enhancing abscesses. Adjacent known ileocecal Crohn disease. Origin:
Description: Post-contrast: involvement of right iliac and psoas muscles by communicating, peripherally enhancing abscesses. Extension to the anterior abdominal wall and inguinal region is visible. Origin:
Description: Coronal reformation depicts the longitudinal extension of the iliopsoas abscess lesion.
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Origin:
Description: Oblique reformation depicts the longitudinal extension of the iliopsoas abscess lesion.
Origin:
**Description:** Sagittal reformation depicts the longitudinal extension of the iliopsoas abscess lesion.

**Origin:**
**Figure 3**

Description: Iliopsoas abscess is reduced in size with subtotal disappearance of purulent fluid and gas content, persistent peripheral enhancement. **Origin:**
Description: Iliopsoas abscess is reduced in size, with subtotal disappearance of purulent fluid and gas content, persistent peripheral enhancement. Origin:
**Description:** Iliopsoas abscess is reduced in size with subtotal disappearance of purulent fluid and gas content, persistent peripheral enhancement. **Origin:**
Figure 4

Description: Resolution of the abscess lesion with disappearance of enhancing walls, iliac muscle mildly enlarged and psoas of normal size. Origin:
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