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Iliopsoas abscess: A clinical dilemma — case report

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Abstract

Iliopsoas abscess (IPA) is the accumulation of pus inside the iliopsoas muscle compartment. The early stages of its clinical presentation are often non-specific and therefore incidentally diagnosed with computed tomography. We describe the case of a 27-year-old man with a history of Crohn's disease presenting with right-sided lower back pain radiating downwards to the lateral part of his thigh and exacerbated with hip movement. Examination of the patient showed a cachectic physique with a fixed flexion deformity at the right hip with a positive psoas sign. We further report the clinical dilemma on the diagnosis between Crohn's disease and intestinal tuberculosis and the subsequent management of IPA secondary to Crohn's disease. Our patient was managed with a loop ileostomy for bowel rest with continuous abscess draining and discharged after 3 months. After the reversal of ileostomy, the patient was satisfied with the overall outcomes. The clinical dilemma stems from the rising incidence of Crohn's disease in Malaysia, as the clinical presentation of intestinal tuberculosis and Crohn's disease is similar. Therefore, it is important for countries transitioning to higher income groups to be able to suspect and treat the condition accordingly.

Keywords: Psoas abscess, Crohn Disease, Tuberculosis, Gastrointestinal

Introduction

Iliopsoas abscess (IPA) accumulates pus inside the iliopsoas muscle compartment, usually by the direct extension from adjacent anatomical structures from a secondary cause. The abscess is detected only in the late stage when it compresses on the iliopsoas muscle presenting as lower back pain exacerbated by hip movement radiating downwards to the lateral thigh and resulting in a fixed flexion deformity [1]. IPA can be diagnosed using computed tomography (CT) [2] and rarely occurs in patients with CD (0.4%–4.3%) [1]; however, the underlying cause for IPA can be difficult to identify in countries where there is an increased incidence of CD with a concurrently high incidence of tuberculosis. We describe a 27-year-old Malay man diagnosed with IPA secondary to CD and how to further differentiate CD and intestinal tuberculosis in countries with increasing incidences of both.

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The authors stated that the written consent was obtained from the patient presented with images in the study.

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Case presentation

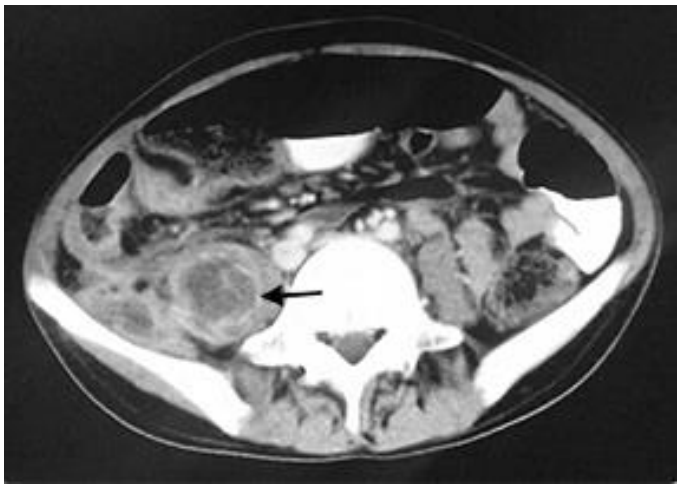
A 27-year-old Malay man presented to us with a 1-week-old right-sided lower back pain radiating down his right thigh, exacerbating with movement forcing him to keep the hip in flexion. Other symptoms included chronic weight loss and repeated hospital admissions for fever of unknown origin associated with diarrhea. During previous admissions, he was suspected of having CD and was started on oral sulfasalazine. He had a history of appendicectomy 4 years ago and denied any record of smoking or other illicit intravenous drug use; his family history was also unremarkable.

Physical examination revealed a young cachectic man lying uncomfortably on his left side in obvious pain with a fixed flexion deformity at the right hip. His abdomen was soft and non-tender with no palpable masses or pain over the inguinal ligament, but the psoas sign was positive. There was no fever, and all his vital signs were stable.

Regarding the laboratory findings, his white cell count was 12.3×10^9/l. Chronic changes were seen, such as microcytic hypochromic anemia with a hemoglobin count of 5.6 g/dL. His erythrocyte sedimentation rate was above 90 mm/h, C-reactive protein > 50 mg/L, and faecal calprotectin level was 4652 µg/mg. Lowenstein-Jensen (LJ) medium culture and GeneXpert polymerase chain reaction test from the pigtail drain was negative for *Mycobacterium tuberculosis*.

His chest X-Ray was clear; the CT abdomen revealed a multiloculated abscess collection in the right iliopsoas measuring 2.7 × 3.0 × 16.0 cm, with a fistulous connection to the caecum (Figure 1). Transmural discontinuous lesions were found in his colonoscopy, and the ileocecal valve was covered with slough, so the ileum could not be accessed; a biopsy was taken from the discontinuous lesions. Histopathology of the intestinal wall demonstrated a noncaseating granuloma; crypt abscess and basal plasmacytosis were not seen. However, there was evidence of moderate neutrophilic infiltration, consistent with an acute inflammation suggestive of inflammatory bowel disease. Consequently, his Crohn's Disease Activity Index was calculated as 332, indicating active CD. Accordingly, he received aggressive medical treatment with oral sulfasalazine (500 mg) twice daily.

Figure 1: Black arrow shows the right large Iliopsoas multiloculated abscess measuring 2.7 × 3.0 × 16.0 cm having a fistulous communication with the caecum.



Management

An ultrasound-guided pigtail catheter was inserted to drain the abscess beginning with 400 cc/24 h. The initial pus culture collected from the drain was positive for extended-spectrum beta-lactamase *Escherichia coli*. One month after inserting the pigtail catheter, a mixed growth of gut microflora was cultured from the purulent collection and a repeat CT scan month after pigtail insertion showed a smaller right iliopsoas collection with persisting fistulous communication with the cecum.

Intravenous antibiotics — meropenem (500 g thrice a day), cefoperazone (1 g twice a day) and metronidazole (300 mg four times a day) — were given for 10 days during his admission. Five packed cell units were transfused until his target hemoglobin count was above 10 g/dL, which stabilized during his admission, and he received total parenteral nutrition throughout the hospital stay to manage his weight loss.

We decided to perform a loop ileostomy to rest the bowel after the second CT scan and allow the abscess to be drained since the purulent collection did not resolve completely. Intraoperative findings showed dense adhesions between the caecum, terminal ileum, and retroperitoneum; accordingly, a peritoneal washout, adhesiolysis, and a diverting-loop ileostomy were done.

Postoperatively, discharge from the pigtail drain was reduced to < 50 cc/24 h, and the patient was finally discharged. Three months later, the pigtail drain discharge dropped to 0 cc/24 h. A repeat abdominal CT scan showed complete resolution of the right psoas collection; the pigtail catheter was removed, and the ileostomy was reversed. The repeat colonoscopy findings showed disuse colitis. No further intervention was done for the IPA after ileostomy reversal, and the patient continued to follow up at the surgical clinic for his CD monitoring. The patient has consented to publish this case report.

Discussion

Our patient presented with the classical signs and symptoms of IPA. Pott's disease is described as the most common cause of IPA [1]; however, in countries where the incidence of tuberculosis is low, IPA is usually diagnosed as secondary to gastrointestinal tract fistulae, which is a common finding in CD [3].

Malaysia has a high incidence of tuberculosis; therefore, the most common cause of IPA in Malaysia is Pott's Disease. However, CD cannot be ruled out owing to the low sensitivity of laboratory tests for tuberculosis [4, 5, 6]. In our patient, CD was diagnosed after excluding a tuberculous disease by negative results of repeated Mantoux test, acid-fast bacilli test, LJ-medium culture, and GeneXpert. The colonoscopic biopsy further confirmed this, which showed no granulomatous inflammation in the transmural lesions taken from the ascending and descending colon.

Tuberculosis has been a major public health concern in Malaysia, with an estimated incidence of 93 new cases per 100,000 people annually in 2017. However, the incidence is lower when compared with other neighboring countries: (per 100,000) Indonesia (319), Thailand (156), Philippines (554), and Myanmar (358) [7]. Although Malaysia is a high-middle-income

country, tuberculosis is still common because of the rapid influx of foreign workers.

CD is rare in Asia, especially in Malaysia, where the prevalence is 2.17 per 100,000 population, and the incidence rate is 0.18 per 100,000 population [8]. However, the incidence rate of CD in Malaysia is lower than in Singapore (0.39) and Indonesia (0.27) [9]. Likewise, within the Malaysian demographics, Malays had a lesser CD occurrence than the Indians (14.7% vs. 76.5%) [10]. This shows that our patient had a rare IPA presentation secondary to CD.

The gold standard for making a definitive IPA diagnosis is by CT scan with a sensitivity of 100% [2]; however, it is difficult to determine the underlying etiology, and tuberculosis is a significant differential diagnosis because of its prevalence in the region. Given the low sensitivity of serologic testing and biopsies, a definitive diagnosis is also challenging. Testing for inflammatory bowel disease can be done with fecal calprotectin, which shows high sensitivity (93%) and specificity (96%) for diagnosing inflammatory bowel disease [1, 11, 15]. However, fecal calprotectin levels cannot exclude other inflammatory bowel diseases, such as intestinal tuberculous disease [12]. Therefore, a diagnosis of CD can be confirmed by ruling out ulcerating colitis on colonoscopy – discontinuous lesions from the anus and slough found at the ileocecal junction in our patient are the commonly found, but skipped, lesions reported in CD [1, 15]. On the other hand, granulomatous inflammation is commonly found in intestinal tuberculosis, besides the presence of a caseating granuloma, which is pathognomonic for intestinal tuberculosis, whereas this presentation is never found in CD [13]. A misdiagnosis between CD and gastrointestinal tuberculosis could cause a rapid and severe deterioration of the patient's health [14]; therefore, understanding the different laboratory testing is crucial [15].

In our case, performing a loop ileostomy for bowel rest allowed the abscess to be adequately drained before reversal; however, there is no consensus regarding reversal timing. Our patient was reportedly upset over his prolonged hospital stay during the disease management process, continuous monitoring of the ileostomy, and reducing weight. However, after the ileostomy reversal, he was happy with the outcome while continuing care for his CD.

To summarize, IPA secondary to CD is rarely seen in Malaysia; however, with the increasing incidence of CD, it is crucial to recognize it as a potential cause of IPA. Patients diagnosed with IPA should be investigated promptly to optimize treatment outcomes as a delayed diagnosis can reduce the patient's quality of life and increase morbidity. Further, extrapulmonary tuberculosis must always be suspected in countries where tuberculosis is still rampant. Based on our report, it can be concluded that loop ileostomy for bowel rest and continuous drainage of the abscess is a feasible option for patients diagnosed with IPA secondary to CD with intestinal fistula.

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