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## Non-tuberculous iliopsoas abscess due to perforated diverticulitis presenting with intestinal obstruction and a groin mass

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**Abstract** Psoas abscess is an uncommon condition and, contrary to traditional teaching, tends to be of non-tuberculous aetiology in developed countries. Diagnosis can be delayed since presenting features are non-specific and in many instances misleading, necessitating a high degree of clinical suspicion and early resort to cross-sectional imaging using CT or MRI. We present a case of iliopsoas abscess secondary to perforated diverticulitis to illustrate the difficulty encountered in early diagnosis and to show that successful management of secondary psoas abscess necessitates surgical resection of the underlying condition in most cases.

**Key words** Secondary psoas abscess · CT diagnosis · Complications of diverticulitis

### Introduction

Psoas abscess, a potentially fatal condition [1], is often considered an uncommon entity traditionally associated with tuberculosis of the spine. Primary gastrointestinal disease is a commoner aetiological factor in developed countries [2, 3]. We describe a case of non-tuberculous iliopsoas abscess secondary to perforated sigmoid diverticulitis presenting with atypical symptoms of intestinal obstruction and a tender groin mass.

### Case report

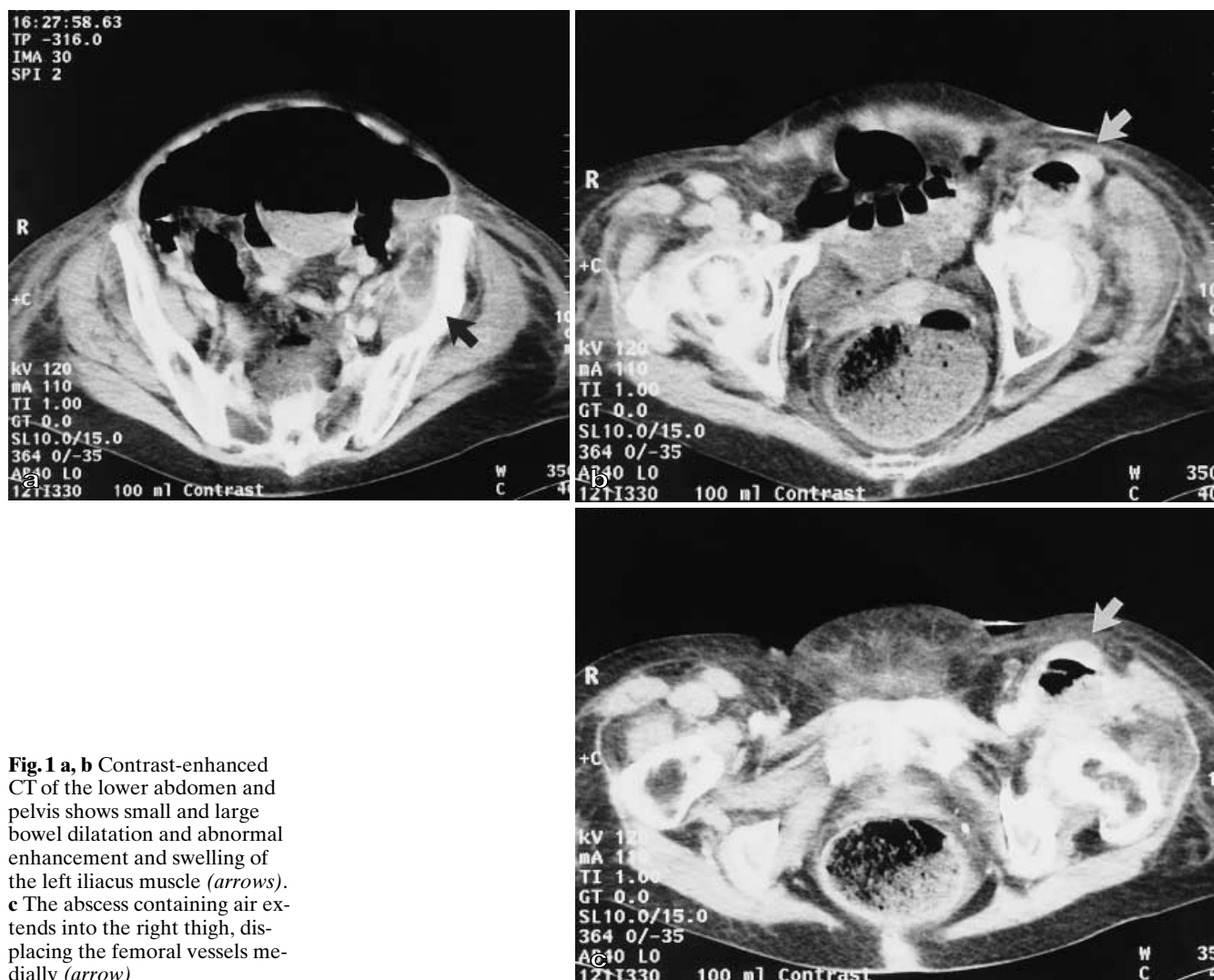
A 73-year-old female presented to the accident and emergency department with lower abdominal pain, distension and feaculent vomiting. Symptoms were present for the past 3 months but increasingly so over the previous 2 weeks.

On examination, the patient was afebrile but tachycardic. The abdomen was distended, with normal bowel sounds. Left iliac fossa tenderness with rebound and guarding was elicited. No masses were palpable. Rectal examination revealed the presence of hard stools. Blood investigations showed a neutrophil leucocytosis of  $22 \times 10^8/l$ . Chest and abdominal radiographs on admission showed no significant abnormality.

The initial clinical impression was that of diverticulitis with secondary intestinal obstruction, and conservative treatment with intravenous fluids and antibiotics was instituted.

On the second day post-admission, the patient developed a painful swelling of the left thigh with redness and induration over the inguinal region and anteromedial aspect of the thigh. Doppler ultrasound examination of the left lower limb deep veins showed no evidence of deep vein thrombosis, but it was noted that the femoral vessels at the inguinal ligament were hard to visualise due to what appeared to be an ill-defined collection of gas and fluid. The patient's condition worsened progressively despite conservative treatment.

A CT examination of the abdomen, pelvis and upper thigh (Fig. 1) showed extensive small and large bowel dilation with air/



**Fig. 1 a, b** Contrast-enhanced CT of the lower abdomen and pelvis shows small and large bowel dilatation and abnormal enhancement and swelling of the left iliacus muscle (*arrows*). **c** The abscess containing air extends into the right thigh, displacing the femoral vessels medially (*arrow*)

fluid levels in the ascending and descending colon. The sigmoid colon and rectum were distended with feces.

An enhancing retroperitoneal collection was present involving the left iliacus muscle and extending along the iliopsoas tendon into the inguinal region. The psoas muscle higher up in the abdomen was normal.

At operation, a perforated descending colonic diverticulum was found with a collection of purulent material tracking along the left iliacus muscle into the anterior compartment of the left thigh. A Hartman's procedure was carried out with debridement and external drainage of the retroperitoneal collection.

Culture and microbiology revealed *Enterococci* and *Coliforms*. The patient had a slow but uneventful recovery and was discharged after 21 days.

## Discussion

Psoas abscess is an uncommon condition with variable and non-specific presenting features. Diagnosis may be

delayed unless a high degree of suspicion is present. The majority of psoas abscesses are secondary to disease processes that originate along the course of the iliopsoas muscle, which extends from the thorax to insert in the lesser trochanter in the thigh.

Although traditionally the condition has been associated with tuberculosis of the spine, gastrointestinal disease is now the commonest cause of secondary abscess in contemporary Western medical practice and occurs with an incidence of up to 40% of psoas abscess. Crohn's disease, appendicitis, and less frequently, colonic malignancy and sigmoid diverticulitis are the most frequently underlying associated conditions.

Primary psoas abscess, where no identifiable cause is present, is encountered with increasing frequency and tends to be found in immunocompromised patients such as intravenous drug abusers and patients with HIV infection [5, 6].

The presenting features are very variable and diagnosis tends to be delayed unless a high degree of suspicion is present.

This is particularly so if the patient has been initially treated with antibiotics in a primary care setting before admission.

Plain radiography and ultrasound are notoriously unreliable at identifying retroperitoneal collections. Small collections involving only the iliacus muscle, as in the case we describe, are usually not diagnosed with these modalities. Computed tomography and MR of the spine and abdomen offer a higher degree of accuracy in detecting such collections and delineating the extent of disease [4]. These are also helpful in predicting suitability for percutaneous drainage. Percutaneous CT-guided drainage is useful in decreasing the overall morbidity by reducing the volume of the collection prior to surgery, particularly in patients who are unwell and septic [1,4]. It has been shown that percutaneous drainage prior to surgery reduces the duration of hospitalisation in these patients [5]. It is, however, doubtful whether percutaneous drainage alone is sufficient as definitive treatment of psoas collections. Most authors consider treat-

ment of the primary condition, usually necessitating open surgery via the transabdominal route, as essential in the successful management of secondary psoas abscess [1, 2, 3]. In the case described herein, laparotomy with primary sigmoid colectomy and surgical drainage of the abscess in the iliacus muscle region and upper thigh was considered to be the best option.

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### Conclusion

The case we present demonstrates the difficulty often encountered in establishing an early and correct diagnosis of psoas abscess, particularly when the presentation is atypical. A high degree of clinical suspicion is essential, together with early resort to cross-sectional imaging with CT or MR for accurate delineation of retroperitoneal structures. Although percutaneous drainage can help reduce the overall morbidity and duration of hospitalisation, open surgical drainage and management of the underlying condition is usually necessary for definitive treatment of secondary iliopsoas abscesses.

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