CASE REPORT

Psoas abscess and severe fasciitis due to a caecal carcinoma

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SUMMARY

A man in his mid-50s presented with a painful and swollen right thigh and buttock. This was accompanied by a month long history of flank pain, back pain, vague abdominal pain, limp, fever and weight loss. On examination, there was extensive erythema, heat, tenderness, oedema and crepitus over his right buttock and thigh. The patient was referred to plastic surgery to exclude necrotising fasciitis of the gluteal and thigh region. After CT imaging, a psoas abscess (PA) and caecal mass were identified. Subsequent right hemicolectomy, PA drainage and debridement of his right thigh were performed. This case reminds clinicians of the many non-specific ways a PA can present and that a high level of suspicion assists in making a timely diagnosis.

BACKGROUND

Owing to the low incidence, difficult accessibility and non-specific features of psoas abscess (PAs), there are often delays in the diagnosis and management of this condition, which can potentially result in prolonged sepsis, increased morbidity and mortality. Being aware of the many non-specific ways a PA can present, and having a patient present with such vague clinical features, aid in making an appropriate management plan. As seen in many cases of PA, the collection of clinical features and their severity at the time of presentation to accident and emergency (A&E) result in referral to several specialities; this case required joint management between general medicine, general surgery and plastic surgery.

CASE PRESENTATION

A 55-year-old man was referred to A&E with a painful, swollen right thigh and buttock. He was initially suspected of having cellulitis of the right thigh, and was admitted to the medical receiving ward and started on intravenous antibiotics. However, the patient's condition deteriorated and he was subsequently referred to plastic surgery when he became systemically unwell, with suspected necrotising fasciitis. On examination, he was thin, pale and pyrexial. The abdomen was distended and tender, and bowel sounds were present. The appearance of the skin over the buttock and thigh was unremarkable with only mild erythema and a small patch of cellulitis visible. There were no blisters or bruising characteristic of a necrotising fasciitis. Tenderness and guarding were noted in the right iliac fossa and pain was elicited on palpation of the lower back, exacerbated by hip movement.

Crepitus was noted over the proximal anterior compartment of the thigh and the patient was unable to flex his hip.

A further medical history, taken on admission, revealed that the patient had suffered from a worsening pain in his back, hip and thigh that radiated to his right knee for the past month. He was unable to weight bear on his right side. He had previously been referred to physiotherapy as this pain was suspected to be a mechanical problem. He also reported a history of anorexia, right iliac fossa pain, constipation and watery diarrhoea during the same period.

Further blood tests and CT scan were requested to detect necrotising myositis or underlying intra-abdominal pathology.

INVESTIGATIONS

Blood tests showed microcytic hypochromic anaemia (haemoglobin 89 g/L, mean corpuscular volume 69 fL), neutrophilia ($6.8 \times 10^9/L$) with a normal white cell count ($7.6 \times 10^9/L$), thrombocytosis ($689 \times 10^9/L$), elevated C reactive protein level (298 mg/L) and hyponatraemia (Na 129 mmol/L). CT scan revealed a large right-sided PA, measuring 8.4×4 cm, from the level of the L2 vertebrae to the right groin (figure 1). The abscess had ruptured through the right posterior lateral abdominal wall into subcutaneous tissue with pus and gas tracking down the buttock and anterior compartment of the right thigh to the knee joint (figure 2). The gas-containing fluid collection in the right buttock measured 10×5.8 cm. The PA was intimately related to

Figure 1 Contrast enhanced CT scan demonstrating caecal mass (CM—yellow arrow) with evidence of inflammation, mesenteric stranding and psoas abscess (red arrow).

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Figure 2 Psoas abscess (red arrow) tracking to anterolateral thigh (yellow arrow).

a caecal mass involving the ileocaecal valve, which measured 6.4×5.3 cm (figure 1). Small lymph nodes in the ileocolic region were also radiologically involved.

DIFFERENTIAL DIAGNOSIS

The differential diagnosis of PAs is extensive, due to the combination of symptoms. Back pain radiating towards the groin or hip in a 55-year-old man may easily be misdiagnosed as sciatica, muscle strain, renal colic or pyelonephritis.

However, in sciatica and muscle strain, there should not be systemic clinical features present. A history of bowel changes, anorexia and weight loss points towards intra-abdominal pathology and warrants further investigation. The patient's hip and back pain were thought to be a mechanical problem, and he was initially referred to have physiotherapy to improve his mobility and back pain in the month prior to the present admission. This delay in treatment caused the tumour to perforate his bowel resulting in the PAs.

Renal colic and pyelonephritis are also other potential diagnoses and should be investigated with a urine dipstick and renal imaging.

TREATMENT

Initial treatment focused on empirical intravenous antibiotic therapy and fluid resuscitation. Within 12 h of admission, a right hemicolectomy with end ileostomy and mucous fistula formation, drainage of PA, and debridement of necrotic muscle and small area of indurated skin overlying the anterior compartment of right thigh, where the PAs was tracking, were performed. The skin over the patient's thigh was left open and dressed with betadine and burns dressing. The patient was transferred for intensive treatment unit care postoperatively. He went back to theatre for a second wash-out of his thigh 8 days later. The skin defect was covered with a split thickness skin graft and the patient was discharged with oncological, general surgical and plastic surgery follow-up.

OUTCOME AND FOLLOW-UP

During the operation, a caecal tumour, which had perforated posteriorly, resulting in a large PA that extended above the iliac crest and below the inguinal ligament into the right thigh, was identified. In addition, a right thigh necrotising fasciitis that extended between muscle compartments was seen, with pus throughout all compartments of thigh and involving fascia. This is not a classical presentation of necrotising fasciitis as there was a clear septic source and there were no areas of skin necrosis or ulceration.

Escherichia Coli was cultured from the pus in the PA cavity. After pathological analysis, the caecal tumour was measured to be 5×6 cm, staged as Dukes C1 or T3N1, and graded as a moderately differentiated adenocarcinoma.

DISCUSSION

A PA is a rare condition with an incidence of 0.4 in 100 000.¹ A PA arising from a perforating caecal carcinoma is even rarer with only one such case reported in the literature.² This is because a bowel perforation due to a colonic carcinoma and, in particular, perforation in the retroperitoneal direction, is rare.² PAs have been reported to arise most commonly from inflammatory processes of intestinal origin.¹

PAs can be classified as either primary or secondary depending on their underlying cause. Primary PAs arise from bacteraemia distant to the psoas muscle, while secondary PAs arise from infective foci located adjacent to the psoas muscle.³

The diagnosis of a PA is difficult, as its clinical features are not specific and have an insidious onset. The classical triad of back pain, limb pain and fever was shown to be present in only 30% of cases.⁴ An updated list of common clinical signs that indicate a PA further included flank pain, vague abdominal pain, weight loss and groin lump.⁴

Owing to the deep location of the psoas major, its examination is difficult. Only by carrying out a careful examination, signs of which point towards a psoas pathology such as abdominal tenderness, antalgic passive hip movements and a painless subinguinal mass, can be elicited.¹ In particular, clinicians should attempt to elicit the psoas sign, which is an indicator of psoas muscle irritation. This is managed by (1) a supine patient raising his thigh on the affected side against resistance and (2) the patient lying sideways on the unaffected side and hyperextending the hip on the affected side. The purpose of both manoeuvres is to stretch the psoas muscle, which will cause pain, eliciting a positive psoas sign, if the psoas muscle is inflamed.

The timely recognition of sepsis is very important and was crucial in the management of this case. Sepsis is defined as a systemic inflammatory response with the presence or suspicion of an infection, and surviving sepsis campaign bundles are increasingly used to ensure early detection of the septic patient.⁵ A negative microbiological result is common and should not delay treatment as sepsis is a clinical diagnosis.⁶

With modern radiology, CT scans have proved to be a useful method in helping to diagnose PA.

The choice of treatment depends on factors such as the size and location of the PA. Traditionally, surgical drainage was the treatment of choice. However, percutaneous CT-guided drainage has proved to be a good alternative.⁷ Currently, the literature supports the use of an antibiotics-only approach to treat small abscesses and percutaneous CT-guided drainage for large abscesses.⁸ In this patient, surgical drainage was performed at the same time as emergency laparotomy and resection of perforated caecal tumour.

Learning points

- ▶ The clinical features of a psoas abscess are non-specific.
- ▶ The list of differential diagnoses is extensive.
- ▶ High levels of suspicion allow for diagnosis.
- ▶ Careful examination to elicit positive signs indicating psoas pathology is vital.
- ▶ Prompt recognition and treatment of sepsis is life-saving.

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