Purulent myositis of the thigh as a presentation of perforated low rectal cancer

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ABSTRACT

Purulent myositis is an acute, intramuscular bacterial infection involving abscess formation most commonly affecting the quadriceps, hamstring and gluteal muscles. We present a case of extensive purulent myositis of the thigh and lower leg caused by bowel perforation below the peritoneal reflection secondary to rectal cancer. Cases of lower limb and perineal purulent myositis should raise suspicion of rectal perforation and should prompt investigations to exclude rectal malignancy.

KEYWORDS

Myositis – Intestinal perforation – Rectal neoplasms

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Case history

A 65-year-old man was referred to the surgical department as an emergency. He had a six-week history of lower abdominal pain, altered bowel habit, rectal bleeding and 15 kg weight loss, as well as a four-day history of persistent right thigh pain, treated by his general practitioner as sciatica. He had been referred on the two-week wait pathway and was due for colonoscopy the following week. On presentation to hospital, he was unwell and septic, with lactate 6 mmol/l rising to 8 mmol/l within the first hour and elevated inflammatory markers, white cell count $19 \times 10^9/l$ and C-reactive protein 240 mg/l. His right thigh was tender on minimal movement and plain radiograph showed extensive surgical emphysema over the entire right lower limb. He was referred with suspected necrotising fasciitis and, following general surgical review, the decision was made to transfer the patient to theatre and perform an exploratory laparotomy together with exploration and debridement of the affected thigh.

On initial laparotomy, sigmoid diverticulae were identified but no other obvious pathology. Debridement of the thigh revealed extensive purulent myositis rather than necrotising fasciitis. This was tracking from the retroperitoneal space into the posterolateral and anterior thigh compartments, and continued down to the lateral and posterior lower leg compartments. Necrotic muscle and overlying fascia were debrided (Fig 1). After identifying fecal material tracking from the retroperitoneal space into the thigh, with no clear source, the laparotomy wound was reopened and a tumour was found 13 cm from the anal verge. A pocket of pus deep to the gluteus maximus and a tract through the

sciatic notch were identified. Further debridement, rectal biopsy and rectal washout were undertaken, and a defunctioning loop ileostomy was brought out. The patient was transferred to the intensive care unit postoperatively, where computed tomography (CT) showed a rectosigmoid mass invading into the right pelvic wall and presacral space with hepatic and pulmonary metastases.

The patient underwent four further debridements and antegrade colonic irrigation over the next two weeks while he remained on intensive care. A negative pressure dressing was applied from day 12 post-initial presentation and he was discharged to the ward five days later. The patient developed an enteric fistula to the midline laparotomy wound while on the ward which was managed conservatively. A further staging CT performed 27 days postadmission was suspicious for disease progression and the case was discussed at a multidisciplinary meeting where the decision was made to aim for palliative chemotherapy should he be fit enough once recovered from his operative episode.

Discussion

Despite extraperitoneal rectal perforations being uncommon, we note that similar cases of rectal cancers presenting with necrotising fasciitis of the thigh have been described in the literature.^{1,2} There has, however, been no previously described case of a rectal perforation resulting in purulent myositis.

Purulent myositis is an acute, intramuscular bacterial infection that develops secondary to haematogenous micro-organism spread into the body of skeletal muscle. It usually involves abscess formation and has a predilection for large

Figure 1 Right lower limb following debridement of necrotic muscle and overlying fascia

muscle groups. In contrast, necrotising fasciitis is a rapidly progressive bacterial infection of subcutaneous soft tissue involving both deep and superficial fascia rather than underlying muscle.³

Identifying the primary source of purulent myositis infection is vital for prompt treatment with appropriate

antibiotics. The most common causative microorganism of purulent myositis is *Staphylococcal aureus* or group A streptococcus.³ If the source of infection is enteric, causative organisms are more likely to be Gram negative and to require adequate anaerobic cover.

Magnetic resonance imaging is the optimal mode of imaging for diagnosis but, owing to the low sensitivity of radiological imaging, there is a high dependency on clinical judgement.⁴ Due to rapid progression of sepsis in both purulent myositis and necrotising fasciitis, radiological assessment is not always possible or appropriate. Urgent debridement is required and acknowledgement that if no abdominal source is found, rectal perforation below the peritoneal reflection should be considered.

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