

Appendiceal fistula causing massive abdominal wall abscess

A 63-year-old man presented to the emergency department with 3-month history of right lower quadrant pain and enlarging mass, with no precipitating trauma or illness. His past medical history includes atrial fibrillation on warfarin and a high BMI of 47. On presentation, he was haemodynamically stable and afebrile. He had a tender fullness in the right lower quadrant without skin changes or discrete abscess.

Biochemistry revealed haemoglobin 131 g/L, white cell count $15.7 \times 10^9/L$, C-reactive protein 151 mg/L and international normalized ratio (INR) > 10 (ten). Computed tomography (CT) scan showed a large right anterolateral wall intramuscular collection extending from thorax to pelvis (Fig. 1). He was commenced on broad spectrum antibiotics and stat dosing vitamin K.

On day 2 of admission, after correction of his INR, he underwent ultrasound-guided drainage with eleven (11) litres of haemopurulent fluid, which cultured gram-negative bacilli. Given the culture result, he subsequently underwent a diagnostic laparoscopy. Intra-operatively, a defect draining turbid fluid was noted within the abdominal wall in which the appendix was partially adhered to (Fig. 2a). The appendix was dissected off (Fig. 2b) and was removed piecemeal. A drain was inserted via the fascial defect. This confirmed our suspicion of an appendiceal fistula causing massive intramuscular abdominal ventral abscess.

He was discharged day 7 with a prolonged course of intravenous antibiotics and community drain cares, with two hospital readmissions for seroma drainage.

Skin and soft tissue infections are commonly managed by general surgeons, with diagnosis generally made on a combination of history and examination. Occasionally imaging is required in the case of complex deep abscesses. Management of abscesses include three key elements: source control, targeted antibiotic therapy and physiological support.¹ Adequate source control is achieved by drainage and debridement of infected tissues and fluid, removal of involved devices/foreign bodies and correction of underlying anatomical or pathological cause.²

Most superficial abscesses will have an evident source or portal of entry via the skin. If presentation is atypical, clinicians must consider an underlying cause, otherwise drainage alone will offer inadequate source control. In the differential diagnosis of soft tissue infection of the abdominal wall, an intra-abdominal origin should be considered including appendicitis, diverticulitis, inflammatory bowel disease or atypical infection (e.g., tuberculosis and melioidosis).³ Appendico-cutaneous fistula or communicating abscess is a rare and challenging diagnosis.⁴ Perforation or fistulation from appendicitis can involve the anterior abdominal wall or the retroperitoneum and persist after an acute episode has settled.

In this case, the presentation was atypical and warranted further investigation. On closer review of this patient's imaging, there is

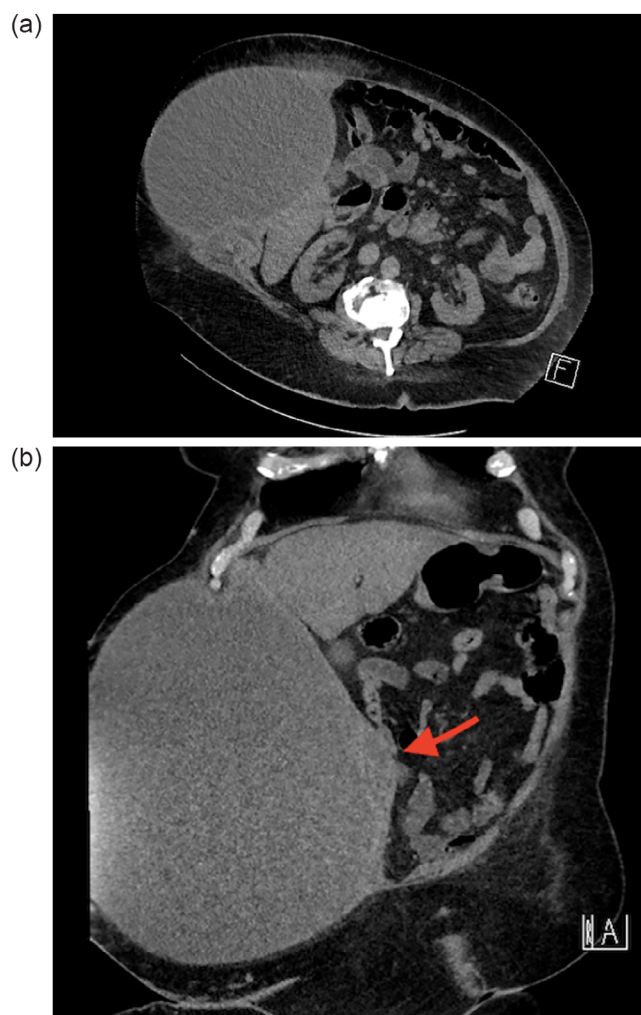


Fig. 1. Computed tomography scan in axial (a) and coronal (b) slices showing massive abdominal wall collection (total drained volume 11 L).

suggestion of appendiceal involvement (red arrow, image 1B). However, imaging can be unreliable and direct visualization of the appendix operatively may be required to confirm the diagnosis. Management is through source control with drainage and emergent/staged appendicectomy.

In conclusion, atypical presentation of an intramuscular, ventral or retroperitoneal abscess should prompt surgeons to review imaging carefully for potential intra-abdominal sources and consider precipitants such as complicated appendicitis.

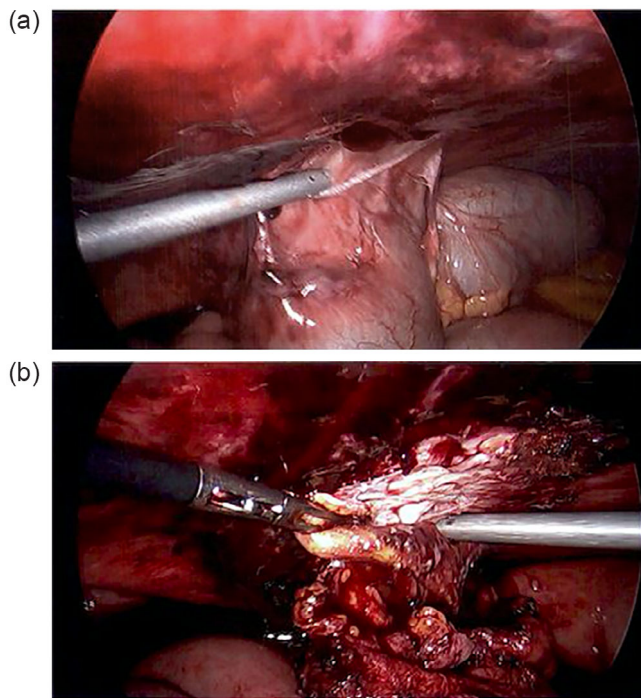


Fig. 2. Images taken during laparoscopy showing dense abdominal adhesions (a) and the perforated appendix (b).

Author contributions


Stephanie Adams: Resources; writing – original draft. **Kate Swift:** Supervision; writing – review and editing. **Nathan Brunott:** Supervision; writing – review and editing.

Patient consent

Consent was gained from the patient for publication, including use of images.

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The authors present a case of massive abdominal wall abscess from perforated appendicitis with fistula.

doi: 10.1111/ans.18571