

IMAGES IN EMERGENCY MEDICINE

Imaging, infectious disease

Painful abdominal nodule in a young man

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1 | PATIENT PRESENTATION

A 31-year-old male presented ambulatory to the emergency department complaining of sudden-onset sharp lower abdominal pain that started 2 days prior to presentation, while the patient was throwing a football. The pain was localized to a lower abdominal surgical scar, where he had undergone laparotomy for a gunshot wound 1 year previously.

On examination, he appeared generally well, and vital signs were within normal range. His abdominal exam was significant for a healed midline surgical scar, with a 1-cm tender bluish-white nodule within the confines of the scar (Figure 1). Bowel sounds were normal, and the abdomen was otherwise soft and non-tender to palpation.

A point-of-care ultrasound (POCUS) of the nodule was performed with a high-frequency linear transducer, showing an underlying hypoechoic fluid collection, within which were seen paired linear hyperechoic structures (Figure 2; Video S1).

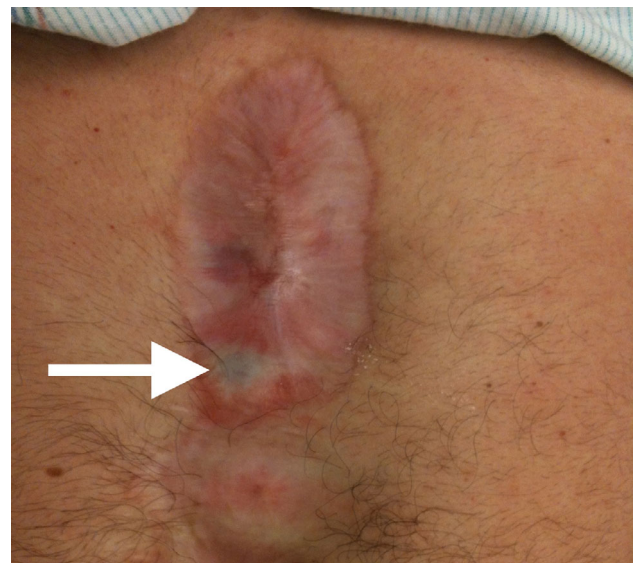


FIGURE 1 Lower abdominal surgical scar with tender nodule at inferior aspect (white arrow)

2 | DISCUSSION

2.1 | Suture abscess

The ultrasound images demonstrate a retained suture with surrounding fluid, consistent with a suture abscess. Using local anesthesia, the suture was able to be retrieved, and the fluid collection drained, at the bedside (Figure 3).

The patient was seen for follow-up in the general surgery clinic 1 week after his ED visit. At that time, his pain had completely resolved, and the site of the suture abscess and removed suture was noted to be healing well. Coincidentally, the patient was seen by the author in the ED approximately 1 year later for an unrelated issue, and examination of the area from which the suture had been removed revealed that

it had healed completely, with no appreciable residual markings at the site by that point and no pain in the area.

Sutures effectively represent a retained foreign body, and as such, can be a nidus for infection or inflammation. Ultrasound has been shown to be able to identify features differentiating suture abscess from other diagnoses.¹⁻³ The sonographic characteristics include presence at the site of prior surgery, surrounding hypoechoic or anechoic fluid, and hyperechoic structures within, representing the strands forming the loop of the suture. In the long axis, these appear as hyperechoic linear structures that may appear single or paired; in the short axis, they appear as paired hyperechoic dots that can be seen to diverge and converge as the transducer moves along the length of the suture strands.

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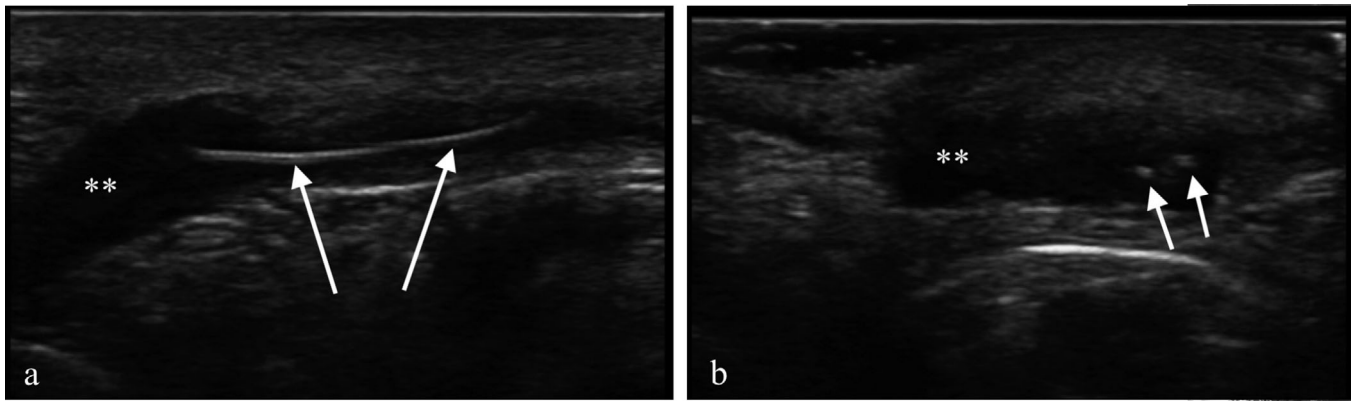


FIGURE 2 Ultrasound image of nodule. Left side (A) demonstrating hyperechoic structures (long white arrows) appearing linear in long axis within a hypoechoic fluid collection (twin asterisks); right side (B) showing hyperechoic structures (short white arrows) that appear as twin dots in short axis within hypoechoic fluid collection (twin asterisks)



FIGURE 3 Suture retrieval at bedside, retained suture visible (white arrow)

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SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section at the end of the article.

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