

Retained Foreign Body Mimicking Sciatica

Dear Editor,

Soft tissue foreign bodies (FBs) are a common occurrence in emergency departments. Not all FBs are discovered during the initial patient encounter; several signs reveal the presence of a retained FB in a wound.¹ Some FBs cause significant problems, including inflammation, chronic pain and repeat visits, whereas some FBs are asymptomatic and remain undetected for months or years. We report a case of a retained FB in the right buttock mimicking sciatica in an 83-year-old woman who presented with low back pain radiating to the right lower leg.

Case Report

An 83-year-old woman presented to the emergency department with sudden onset of low back pain radiating to the right lower leg. She had a history of right sciatica pain with irregular treatment, and she denied previous history of trauma, acupuncture and intramuscular injections. Pelvic radiography (Fig. 1) was performed and she was treated for sciatica with an analgesic and muscle relaxant. She then underwent rehabilitation under the suggestion of an orthopaedic surgeon. However, the patient's pain became more severe. Therefore, she came again to our emergency department.

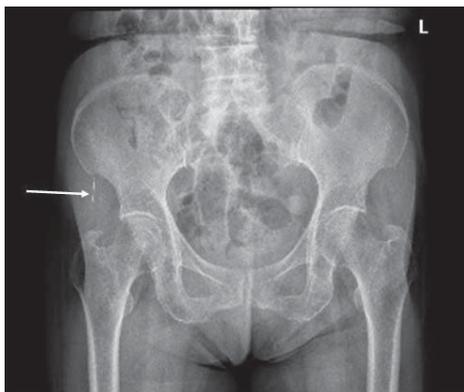


Fig. 1. Pelvic radiograph shows a small hyperdense shadow (arrow) located below and right of the postero-inferior iliac crest.

Her initial vital signs were within normal limits, except for a mild fever. On physical examination, we discovered a local erythematous swelling in the right buttock region with severe tenderness. Laboratory data were within normal ranges, except for leukocytosis with a left shift. Under the impression of a buttock abscess, computed tomography

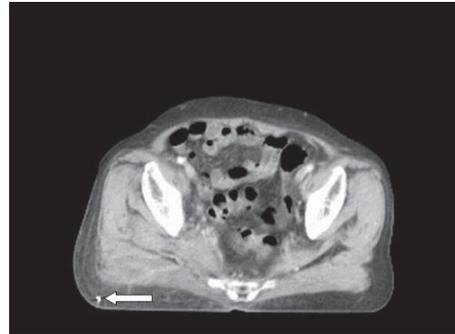


Fig. 2. Computed tomography of the pelvis reveals a hyperdense spot (white arrow) in the right posterolateral angle of the buttock soft tissue.



Fig. 3. A 3.5-cm length of sharp rusted metal was removed from the soft tissue of the patient's right buttock.

(CT) of the pelvis was performed. The images showed localised cellulitis, with a suspected metal FB in the right buttock region (Fig. 2). The patient received empirical cefazoline and underwent surgery to remove the FB. A 3.5 cm sharp rusted metal was removed from the soft tissue of the patient's right buttock (Fig. 3). She was discharged on the 5th postoperative day in stable condition.

Discussion

On retrospective review of the prior pelvic radiograph (Fig. 1), a thin sharp, hyperdense area was located just below the right right postero-inferior iliac crest. We initially thought of the image as an artifact and treated her for sciatica. FBs embedded in soft tissue can cause toxic and allergic reactions, inflammation or infection; the severity of these complications varies widely. Not all FBs are discovered during the initial patient encounter; several signs reveal the presence of a retained FB in a wound,¹ such as local tenderness, with an inflammatory reaction in our patient. Detection of a soft tissue FB is often very difficult, even when strongly suggested by history and

physical examination. Plain radiography is helpful only in cases where the FB is radiopaque.² CT should be reserved for deep FBs or when FBs are not seen on radiographs or ultrasonography but are suspected.³ When plain radiographs, history and clinical examination fail to reveal the presence of superficial FBs, ultrasound or CT can serve as an alternative method.⁴ High-frequency ultrasound was superior to plain and soft-tissue radiography, and the latter 2 techniques were similarly poor at detecting non-radiopaque FBs.⁵

The overall sensitivity of ultrasound for FB detection is about 53% and the overall specificity is 47%. Positive and negative predictive values were 79.9% and 20.0%, respectively. Sensitivity for individual sonographers ranged from 40.8% to 72.3%, and specificity ranged from 30% to 66.7%.⁶ Ultrasound detects a variety of soft-tissue FBs, including wood splinters, glass, metal and plastic, along with an evaluation of their associated soft-tissue complications. All of these FBs were echogenic when imaged with ultrasound. For radiopaque FBs, ultrasound provides precise localisation and improves the ability to assess the surrounding soft tissues.⁷ Like all ultrasound procedures, the success of FB localisation and removal is dependent on a number of factors, including anatomic location, FB material and operator skill.⁸ Retained soft-tissue FBs may migrate very late and can cause high morbidity or mortality. It is important to be diligent in the search for FBs, using ultrasound, CT scan, or magnetic resonance imaging in cases in which initial plain radiographs are negative.⁹

We remind clinicians and radiologists that radiographic studies should be carefully interpreted, especially when an artifact appears to be present that could be easily mistaken for, or considered as an artifact. In this situation, ultrasound is an inexpensive, portable and readily available imaging modality for the confirmation of superficial soft tissue foreign bodies, without the risk of radiation hazards. It is also a clinically useful tool for the detection and removal of FBs by emergency physicians.

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