



Inflammation and infection

## Destructive domino: Subcutaneous self-implanted penile foreign body implicated in rule-out penile fracture

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## ABSTRACT

41-year-old male presented with significant penile swelling following sexual intercourse. Two years earlier while incarcerated, the patient self-inserted a 1.5 cm subcutaneous penile foreign body (FB) made from a domino piece. An original concern for penile fracture was successfully ruled out by penile ultrasound, and computed tomography ruled out deep infection. Bloodwork otherwise revealed leukocytosis, and the patient was admitted for intravenous antibiotics and observation. Penile cellulitis and hematoma clinically improved, and the FB did not require removal. At 18 month follow up, the patient maintains normal urological and sexual function.

## Introduction

The management of penile fracture or traumatic injury must incorporate a detailed history that identifies mechanism of injury, its force, or associated FB. The correct clinical management of any penile injury may prevent permanent penile injury and depends on an accurate pre-interventional diagnosis. Unusual causes of penile deformation such as intentional penile FB insertion may be misdiagnosed as pathologic injury or fracture. Here we present such an illustrative case and the hallmarks of its findings on physical exam.

## Case presentation

A 41-year-old male presented with emergent penile swelling noted 12 hours after penetrative sexual intercourse. There was no report of pain during intercourse, acute detumescence, or sensation of a 'pop'. The patient had no lower urinary tract symptoms or hematuria, and no suprapubic, scrotal or testicular pain. The patient had no relevant past medical or surgical history. His social history was significant for poly-substance abuse and recent incarceration, having been released within the week.

Physical exam revealed a healthy-appearing male in no apparent distress. There was mild pubic induration and edema without erythema or crepitus. The phallus was uncircumcised with moderate to severe edema, erythema and concurrent phimosis. There was no meatal blood or discharge. The scrotal and testicular exams were normal. Of note, there was a palpable subcutaneous 1.5 cm foreign body at the proximal

midline of the dorsal phallus, non-tender, and mobile with no signs of erosion or discharge. The patient explained that during his incarceration, he had used a "pencil" to introduce an "arrow-shaped" chiseled fragment of a domino game piece into the subcutaneous space two years earlier. At the time, he recalled no post-insertion injury, wound, or complication from his cell-based surgery.

Laboratory evaluation was remarkable for a white blood cell (WBC) count of  $19.5 \times 10^3$  K/ $\mu$ L with 79% neutrophils. Penoscrotal ultrasound (US) revealed a small hematoma at the base of the penis with no scrotal or testicular abnormalities and no evidence of corporal disruption (Fig. 1). A Computed Tomography (CT) scan identified a  $1.5 \times 1.0$  cm foreign body in the subcutaneous tissue of the penis and a small hematoma at the base of the penis with no signs of deep infection (Fig. 2).

The patient was managed conservatively with intravenous antibiotics and phimosis care. His WBC normalized and his exam significantly improved. He was discharged on hospital day 5 on an oral antibiotic course of doxycycline and cefuroxime. He was non-compliant with follow up thereafter but returned for evaluation 18 months later, noting no urological issues since discharge. Physical examination was notable for the unchanged finding of the subcutaneous domino piece remaining in its same position (Fig. 3). He deferred surgical excision of the penile FB.

## Discussion

The practice of inserting foreign bodies in the penis to enhance sexual stimulation has previously been described with a higher

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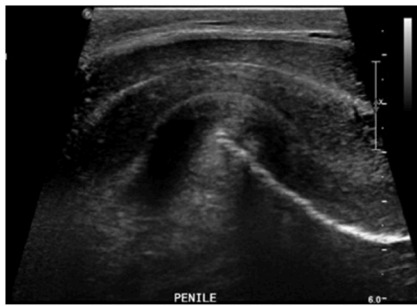


Fig. 1. Penile US showing no discrete corporal disruption.

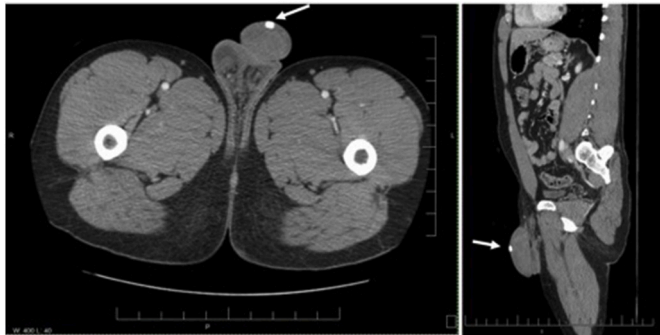


Fig. 2. CT abdomen and pelvis depicting the dorsal subcutaneous penile foreign body (white arrow).



Fig. 3. Phallus with subcutaneous domino piece measuring 1.5 × 1.0 cm.

prevalence in Asian countries, specifically amongst men with gang affiliations who use shaped glass or plastic materials for subcutaneous phallic insertion.<sup>1</sup> Often dubbed “artificial penile nodules” (APN), these objects are typically self-implanted under non-sterile conditions. In the United States, most reports of self-implanted foreign bodies are found in the incarcerated population. Hudak et al., for example, described three cases of subcutaneous penile FBs presenting as acute infection, while a report by Flynn et al. described another three APNs associated with acute on chronic penile erosion.<sup>2,3</sup> Between both series (median age 28.5), most (4 of 6) presented within weeks after self-insertion, and all required explantation. Surgical removal of the APN was achieved through an overlying incision either under local (dorsal penile block) or general anesthesia. The wound was often closed loosely to allow for drainage, and rarely was packing applied. In a later series of 7 patients

(median age 35), all presented with pain and either concurrent infection or erosion.<sup>4</sup> Overall, 6 patients required FB removal, 4 of which were successfully done in the emergency department. Across these series, the majority of APNs were located dorsally; however, appropriate care and workup is recommended if urethral involvement is suspected in cases of ventral FBs.

The patient presented here appears to be unique for his apparently long-term and benign tolerance of the penile FB, having experienced no complications for two years. Importantly, our patient presented with concerns for penile fracture after sexual activity, unlike prior reports. The correct bedside diagnosis, corroborating imaging, and no evident progression of infection or erosion suggested conservative management for penile cellulitis. Exploration was therefore deferred, which appears to be a reasonable option even in cases where the diagnosis of penile fracture remains elusive.<sup>5</sup>

## Conclusion

Self-inserting subcutaneous APNs is an established phenomenon that may pose several risks, commonly by way of infection and erosion. As a result, many APNs may require explantation, which may further pose issues with future sexual function and cosmesis defects. We present an unusual case of penile hematoma and cellulitis that was originally concerning for penile fracture following sexual activity in a patient with an APN. We demonstrate the importance of ruling out corporal body injury and deep infection in such presentations, while highlighting successful conservative management whereby surgical intervention can be avoided.

## Ethical statement

Written informed consent was obtained from the patient for publication of this case report and the associated images.

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## Declaration of competing interest

None.

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