Magnetic Resonance Imaging Findings of Penile Abscess

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A 72-year-old man presented with pain and swelling in the penis, indicating penile infection or abscess. An ultrasound was performed but unable to lead to a diagnosis of abscess. Magnetic resonance imaging with diffusion-weighted imaging was strongly suggestive of penile abscess. The puncture of the abscess was unsuccessful. However, pus was drained spontaneously via the urethra, and the symptoms disappeared eventually. Although ultrasound can be useful, sometimes it might be difficult to distinguish between inflammatory tissue and abscess containing necrotic tissue. Magnetic resonance imaging, especially diffusion-weighted imaging, can be a powerful tool for diagnosing abscess in the penis. UROLOGY 131: e5–e6, 2019. © 2019 Elsevier Inc.

A 72-year-old man presented with a 5-day history of pain in the penis. He had no history of genital trauma or injection therapy on the penis. A physical examination indicated swelling and tenderness of the penis and phimosis (Fig. 1A). Although laboratory testing revealed elevated C-reactive protein levels (151mg/L) and a white blood cell count of 20,700/mm^3, the patient was afebrile and did not have any severe vital sign abnormalities suggestive of sepsis. Ultrasound revealed no obvious hypoechoic area indicating abscess. Then, magnetic resonance imaging (MRI) was performed to rule out abscess, as well as tumor and priapism. A T2 high-intensity lesion with an enhancement defect in the corpus cavernosum (Fig. 1B-C) was observed, and diffusion-weighted imaging showed an extremely high-intensity lesion in the bilateral corpus cavernosum (Fig. 1D). Based on the MRI findings, a penile abscess was strongly suspected, and its size was 20 × 42 × 130 mm. There were no mass or nodular lesions with abnormal enhancement, disruption of the tunica albuginea, or flow void on the T2-weighted image and heterogeneous signal on the T1-weighted image, indicative of tumor, penile fracture, and priapism, respectively.[1] The patient underwent puncture for abscess without incision at bedside, which resulted in incomplete drainage, with aspiration of 0.1-0.2 mL or less of pus. *Micromonas micros* and *Fusobacterium sp*. were detected by aspiration culture. As the patient refused further surgical drainage, he was treated with antibiotics as follows: 7 days of intravenous administration of 13.5 g/day piperacillin/tazobactam, followed by 22 days of oral administration of 1.125 g/day amoxicillin clavulanate. However, the pus was drained spontaneously via the urethra, and the symptoms eventually disappeared 17 days after the onset. Penile abscess is an uncommon infection. Previous reports have indicated cases of penile abscess associated with injection therapy, priapism, and trauma.[2,3] However, spontaneous penile abscess is rare,[4] although the patient had phimosis, which may affect this infection. In general, ultrasound is useful for genitourinary diseases,[5] it might be difficult at times to distinguish between inflammation and abscess containing necrotic tissue. MRI, and especially diffusion-weighted imaging, can be a powerful tool for diagnosing penile abscess, as observed with abscess in other organs or tissues.[6]

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Conflict of Interest: *The authors do not have any conflict of interest to declare.*

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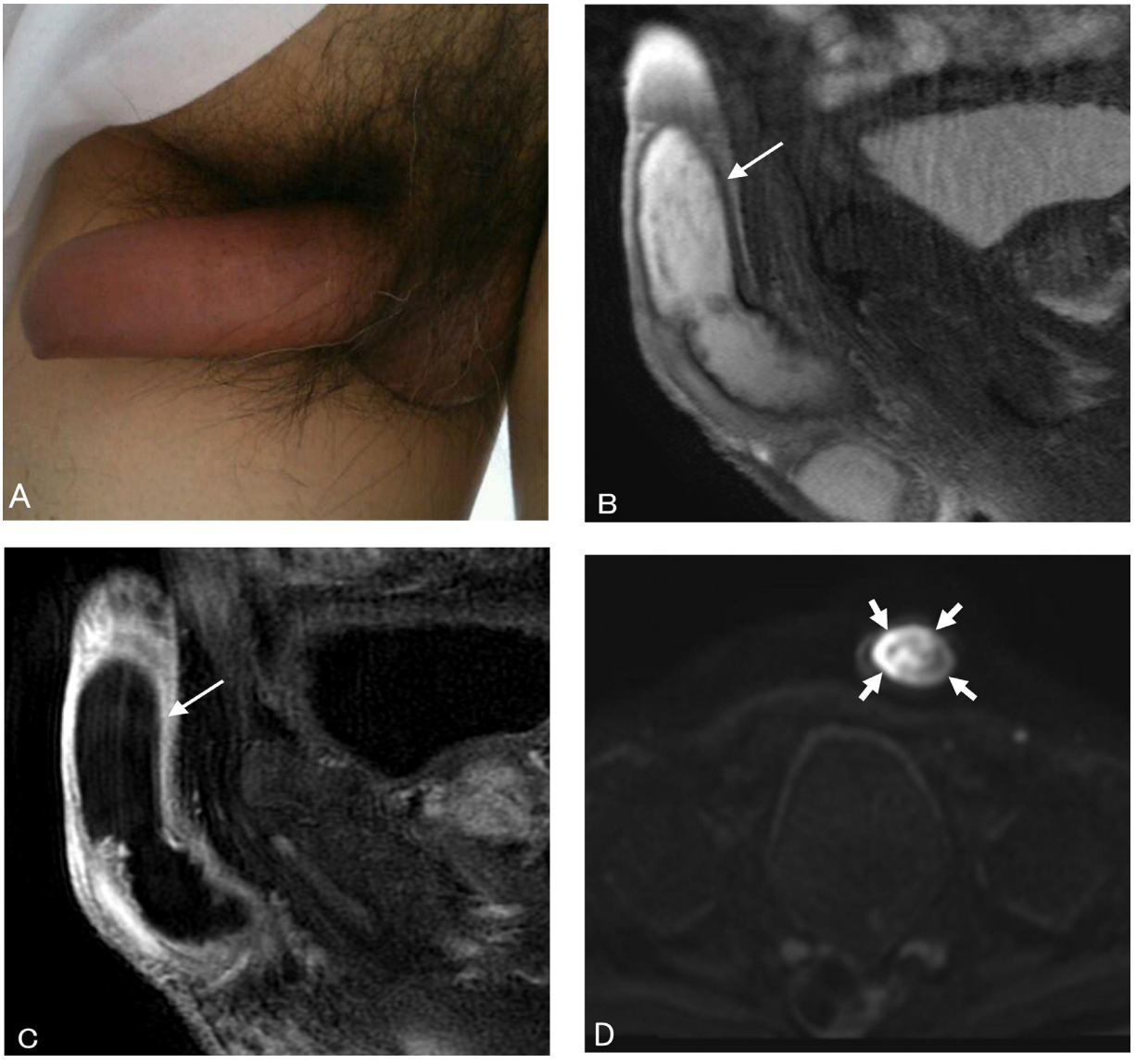

Figure 1. (**A**) Reddening and swelling are observed in the penis. (**B**) A high-intensity area (arrow) is visible on the sagittal T2-weighted image in the corpus cavernosum. (**C**) The contrast-enhanced sagittal T1-weighted image disclosed an enhanced deficit area in the corpus cavernosum (arrow). (**D**) The axial diffusion-weighted image revealed a significant high-intensity area, indicating abscess (indicated by the white arrows). In this slice, both sides of the corpus cavernosum are completely replaced by the abscess. (Color version available online.)