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Snap sound and detumescence: Fracture penis

Rao A, Surendrababu NRS

A 30-year-old man came to the emergency department complaining of penile pain, swelling and ecchymosis after a sexual intercourse. He had revealed gradual detumescence after hearing a snap sound. There was an edematous, ecchymotic shaft from the penoscrotal junction to the glans penis with no history of hematuria. Clinical examination and sonography of the penis was suboptimal due to severe pain. Magnetic resonance imaging (MRI) showed a defect in the tunica albugenia (Figure 1), covering the corpora cavernosum and spongiosum on the right and a small cavernosal hematoma (Figure 2), extending to the subcutaneous planes, both in T1- and T2-weighted sequences. Surgical repair of the tear in the albugenia was done and the postoperative period was unremarkable. The patient recovered very well and regained good sexual function as before.

Discussion

Penile fractures are rare urologic emergencies. Most of these patients report hearing a cracking or popping sound with a sharp pain followed by rapid fractures. In most cases, a tear occurs in only one of the corpora cavernosa and its surrounding tunica. However, the corpus spongiosum and the urethra can also be involved. Penile fracture is caused by exertion of axial forces on the erect penis, resulting in a tear of the tunica albuginea with extrusion of blood subcutaneously. The tunica albuginea thins out from 2 mm to 0.25 mm, during erection. Because the thinned tunica albuginea is susceptible to injury, sudden, direct force acting on the dorsum can often lead to fracture. Cavernosal ruptures are generally transverse in orientation and are located in the ventral portion, adjacent to the urethra. The relatively fixed portion of the urethra between the urogenital diaphragm and the glans is susceptible to injury.

This injury usually occurs during vigorous sexual intercourse when the rigid penis slips out of the vagina and is misdirected against the partner’s pubic bone or perineum, resulting in buckling trauma. Another common cause of penile fracture is self-inflicted abnormal downward bending of the erect penis to achieve detumescence. Imaging may be required, particularly in those patients with an atypical clinical presentation or with severe local pain and swelling that interdicts a thorough physical examination of the penis. The main role of imaging in these patients is to exclude albugineal tears because extratunical and cavernous hematomas can be treated conservatively. Immediate surgical repair of an albugineal tear markedly reduces the risk of amputation.

Figure 1: Coronal T2W MR of penis showing - A. Breach in the tunica albuginea (hypointense line) with associated hematoma in the right corpora cavernosum with adjacent soft tissue edema. B) Involvement of corpora spongiosum on the right side

Figure 2: Axial T2W (A) and T1W (B) imaging of penis showing - Defect in the tunica albuginea with hematoma involving the right cavernosum, minimal extension into the spongiosum on the right side and soft tissue edema
of post-traumatic curvature, lowers the incidence of erectile dysfunction and allows earlier resumption of sexual activity.[4]

Ultrasonography, despite being readily available and easy to perform, does not always allow diagnosis of a tunical tear and often cannot be used due to severe pain and swelling of the injured penis as in our case.[5] The MRI is an excellent imaging method for evaluating patients with penile trauma because of its multiplanar capability and excellent tissue contrast.[1] The integrity of the tunica albuginea is the most important factor in determining the necessity for surgical intervention, which is well demonstrated as a low-signal-intensity structure at both T1- and T2-weighted images. Because of its multiplanar capability, MRI will give a good roadmap to the urologist regarding the extent, location of a tunical tear, associated injuries to the corpus spongiosum and urethra. Accurate assessment of the location and severity of the rupture is essential for the urologist to determine the optimal site and extent of the incision. However, due to its high cost and restricted availability, it is still not considered a primary investigation of penile trauma. In conclusion, MRI is particularly helpful if clinical and sonological findings of penile fractures are equivocal.

References

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