Ruptured superficial dorsal vein of the penis masquerading as a penile fracture: case report

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Acute onset of pain, swelling, and ecchymosis of the penis during sexual intercourse indicate a penile fracture until proven otherwise. However, there have been few case reports of isolated injuries to the dorsal penile artery or dorsal vein mimicking a penile fracture. Presented herein is a rare case of a patient who ruptured his superficial dorsal vein during intercourse.

Key Words: penile injury, penile fracture, dorsal venous injury

Case report

A 57-year-old man arrived at the emergency room complaining of swelling and ecchymosis of his penis, which occurred during vaginal intercourse. He was penetrating his wife from behind and admitted that his penis slipped out of the vagina several times and hit against the perineum. He terminated intercourse immediately after noticing the swelling and ecchymosis. He gradually detumesced and denied hearing a popping sound. He voided with ease after sustaining the injury and denied obstructive voiding symptoms or gross hematuria.

Physical examination disclosed a swollen phallus with marked ecchymosis on the dorsal surface of the penis. The ecchymosis tracked into the superior aspect of the right hemiscrotum. Hematoma was palpated over the dorsal surface of the penis. No corporal defect could be identified. The scrotal examination was normal except for the presence of ecchymosis, as mentioned above. Complete blood count, coagulation profile, and urinalysis were all normal.

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The working diagnosis was penile fracture and the patient was taken to the operating room for penile exploration. A circumferential subcoronal incision was made and the penis was degloved. Hematoma was seen on the dorsal aspect of the penis superior to Buck's fascia and bleeding was present from the distal end of the ruptured superficial dorsal vein. The distal end of the vein was ligated and the hematoma was evacuated. The proximal end of the superficial dorsal vein was visible after hematoma evacuation and was ligated. The corpora and urethra were examined and no evidence existed of injury to either structure. The penile incision was reapproximated after performing a circumcision and the patient was discharged home. On follow up, the patient is doing well and is without any penile deformities or plaques. He maintains rigid erections.

Discussion

The majority of injuries to the erect penis are in the form of a penile fracture. During erection, the tunica albuginea stretches and becomes significantly thinner.[1] Acute angulation of the penis places added strain on the already thinned tunica and the tunica can become disrupted. Injury to the vasculature of the penis during an erection is presumed to occur secondary to the same mechanism. The blood vessel walls are stretched during an erection. Added strain from acute angulation of the penis can result in shearing of the blood vessel. Isolated cases of dorsal artery and deep dorsal vein rupture have been reported.[2-6] To the authors' knowledge, no case report of an isolated torn superficial dorsal vein presenting after intercourse and mimicking penile fracture has been published. Isolated vascular injuries are the exception, not the rule, when a patient has a painful, swollen, ecchymotic phallus after intercourse.

There were two findings in our case that can alert a physician that a vascular injury has been sustained rather than a penile fracture. First, this patient had mild scrotal ecchymosis. Scrotal ecchymosis is seen with bleeding superficial to Buck's fascia. Buck's fascia would have to be violated for a patient with a penile fracture to have scrotal ecchymosis. Second, our patient did not detumesce immediately. He detumesced gradually over time, unlike most penile-fracture patients who lose their erections rapidly.

Cavernosography has been used to aid in the diagnosis of a penile fracture. The authors do not routinely perform cavernosography, and a cavernosogram would have been negative in our patient. The differential diagnosis of a swollen, ecchymotic penis should include a penile fracture and injury to any of the dorsal vascular structures including the dorsal artery, deep dorsal vein, and superficial dorsal vein. The decision to perform penile exploration should not be made on the basis of cavernosography.

Conclusion

Blunt trauma to the erect penis usually results in a penile fracture. Physicians need to be aware that the dorsal blood vessels of the penis are susceptible to injury as well. Penile exploration should be performed with hematoma evacuation and either reapproximation of the disrupted tunica albuginea or ligation of the ruptured blood vessel. Patients who sustain dorsal vessel injuries have less morbidity than those with penile fractures, because penile-fracture patients may develop a penile plaque that causes curvature or impaired erectile function. □

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