

Ultrasound Diagnosis of Penile Fractures

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The Story, Per Patient

38 y/o M c/o sudden sharp penile pain and subsequent swelling at 5am. He had been having an erotic dream involving his wife, when suddenly; he felt a pain, which awoke him from his reverie. He awoke in a face down position. He reports the Rt side of his penis is very tender at base and that his penis turns Leftward. No prior hx of similar problem. He denies testicular pain, penile d/c, urinary frequency, or urgency. ROS (-)

Differential, With Due Diligence

1. Dorsal penile vessel injury (Delayed Detumescence)
2. Extraalbuginea hematoma (Flaccid)
- 3. Penile Fracture**

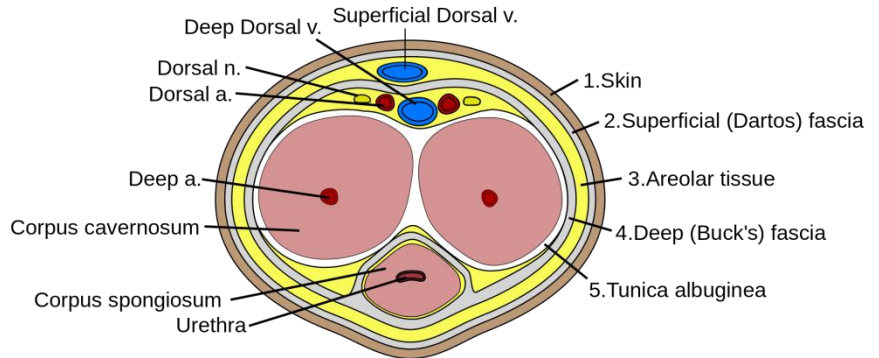


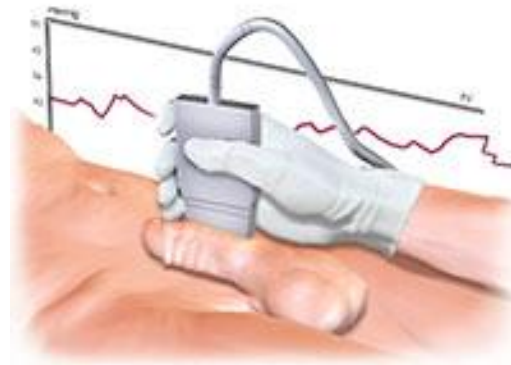
Figure 1 Susceptible to trauma during erection: Tunica albuginea thins from 2.4mm (flaccid) to 0.25-0.5mm (erect)

Classic History

1. Erect penis with audible crack/pop and immediate detumescence; careless insertion (normally during sex and with partner on top)
2. Hematoma formation (with palpable defect)
3. Ecchymosis and pain

If we only need the classic history, why do we need further imaging, like bedside ultrasound?

1. Atypical Presentations
 - a. 43% Audible crack
 - b. 55% Palpable defect
 - c. 15% Missed when diagnosed with just H&P alone
 - d. 83% Had a deviation
2. Complications From Missed Diagnosed Penile Fractures
 - a. Painful erections
 - b. Severe penile angulation
 - c. Infected hematomas
 - d. Abscess formation
 - e. Impotence
 - f. Painful intercourse
 - g. Erectile dysfunction
 - h. Priapism
 - i. Skin necrosis
 - j. Urethrocavernous fistula
 - k. Urethral stricture



3. "As of 2001, 1331 cases were reported in the literature. The incidence of concomitant urethral injury in reported cases is 10-58%."⁸

What you MUST NOT miss:

Urethral Injuries

- Is there difficulty voiding?
- UA with hematuria?
- Does the patient require a retrograde urethrogram?

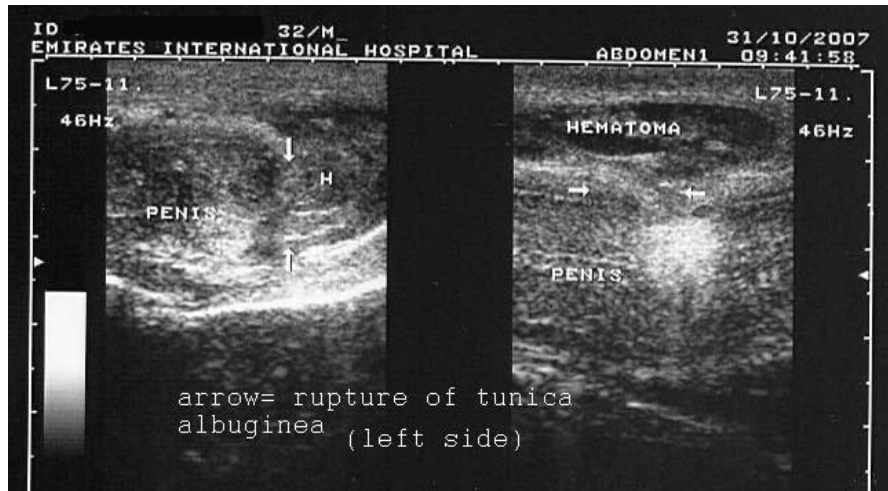


Figure 2 Penile Fracture US Image 1

Ultrasound Guide:

1. Use a High Frequency Probe in both the transverse and horizontal planes
2. Looking for defects in the Tunica Albuginea, which normally appears as a hyperechoic structure surrounding the corpus cavernosa.
3. **Dx = Hematoma + Disruption of Tunica**

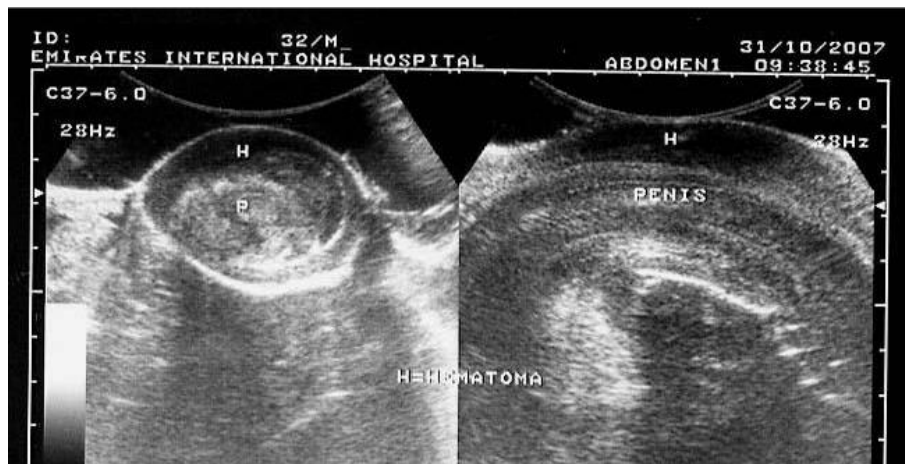


Figure 3 Penile Fracture US Image 2

Treatment is surgery. Consult Urology.

References / Further Reading

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