Eggplant Emergencies: Priapism **Twitter/Instagram: @emboardbombs**

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Objectives: alright so this one should be quick. We will cover priapism, why it's bad, ischemic/nonischemic presentation and how to tell the difference, and acute management in the ED.

Priapism: >4 hours of erection.
Relevant pathophysiology: erection comes from dilation of cavernosal arteries and decreased venous outflow in corpora cavernosa.

Most common cause: Primary (idiopathic). Super helpful, right?
Secondary (in order):
- Medications- **intracavernosal injections**, anticoagulants, PDE5 inhibitors, alpha blockers, methylphenidate, **cocaine**
- Any hyperviscosity syndrome (**SCD**, leukemia, myeloma, etc.)
- Diabetes, hyperlipidemia
- **Pelvic/penile trauma**
- Some other random ones that won't be tested or are zebras (…amyloid…)

Two types of priapism: **ischemic** and **non-ischemic**
Ischemic = low flow/anoxic/veno-occlusive/time-to-lose-your-penis condition. Medical emergency!
Nonischemic priapism = high flow condition. Nonemergent. Due to high flow into corpora cavernosa. Blood is well-oxygenated.

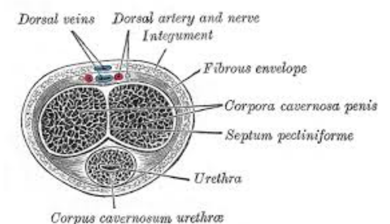
	Ischemic priapism	**Non-ischemic priapism**
Wait what?	Compartment syndrome of the penis. Get it now? Tissue damage at >4 hours. Let that sink in. Irreversible damage at >24 hours = bye bye penis (90% of men lose sexual function at that point).	Most commonly due to penile or perineal trauma. Treatment: resolution in 60% of cases with just observation alone.
What it looks like	Painful and rigid erection; penile gangrene if late	Less painful, less rigid
Blood gas analysis	Black blood. Hypoxemia, acidotic	Red blood. Normal

Sickle cell disease
-known for recurrent priapism that are short episodes but can resolve on their own ("Stuttering priapism"). Can lead to worse ones.
-often associated with awakening from sleep with an erection. Treat them the same as ischemic patients. Make sure they are on Hydroxyurea.

How to manage priapism:

1. Questions to ask patients: duration of erection, prior episodes, if so what was done, medications, illicit drugs, history of SCD, trauma/recent sexual intercourse.
   Give these people generous pain meds before sticking needles anywhere.
2. Blood gas analysis: get a 21G needle and aspirate from one side of the corpus, 5 mL.
   Ischemic = black blood. Hypoxemia. pH <7.2, high CO_2, low O_2
   Nonischemic = red blood. Normal blood gas.

   You can also do Doppler if unable to do blood gas. Low/no pulse for ischemic priapism (#obvi)



3. Let's begin by saying there are no RCTs or real research behind this stuff. Makes sense really- can you imagine recruiting participants for this sorta thing? "Wait you're going to stick a needle in my WHAT? Hell nah"

Ischemic treatment: <4 hours = Intracavernosal phenylephrine injection
>4 hours = Intracavernosal aspiration with/without saline irrigation, with phenylephrine injection

Consider a penile ring block: 25 or 27g needle inserted at penile base on dorsal aspect (see above x-section).

20G butterfly needle → aspirate 5mL from corpora to decompress it → wait 3-5 minutes for response → if none, inject Phenylephrine every 3-5 minutes until resolution or until UP TO 1 HOUR before deciding if treatment is working or not.

Ok so that failed? Call urology (probably should have already). Shunt surgery- fistula made to drain blood.

Avoid: beta-adrenergic agonists, mixed alpha/beta agonists. These can cause smooth muscle dilation.

Phenylephrine: Alpha agonist → contraction of cavernous smooth muscle → venous outflow

References- check out the website under the title heading for a complete list of references.