A case of successfully treated penile ischemic ulcer by PTA in a hemodialysis patient

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Disclosure

• Speaker name:

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• I have the following potential conflicts of interest to report:

  □ Consulting
  □ Employment in industry
  □ Stockholder of a healthcare company
  □ Owner of a healthcare company
  □ Other(s)

• ☒ I do not have any potential conflict of interest
Number of PAD patients is remarkably increased all over the world.

Due to:
- Increase of elderly population
- Increase of DM patients
- Increase of dialysis patients

Ischemic foot
Ischemic hand
Other site ischemia
Purpose

I report a case of successfully treated penile necrosis by angioplasty in a hemodialysis patient.
Case: Male patient in his 60's. DM, HT, 4 years history of hemodialysis.

He noticed penile pain during hemodialysis for several months and ulcer formation of glans penis was found. Conservative therapy such as sterilization and medication for pain was done. The ulcer was gradually worsened.
CTA shows severe calcification of his entire arteries. Not only internal iliac a. but also internal and external pudendal arteries. The penile arteries are severely calcified.
Angiography:

6F sheath was inserted from bilateral femoral arteries. Orifice of the internal iliac artery had some irregularity. Branches of the internal pudendal arteries were poorly visualized.
A 3F microcatheter and 0.014 wire were proceeded to the orifice of penile artery via internal pudendal artery. PTA was done by 5.0mmx40mm balloon (Internal iliac a.), 2.0mmx40mm balloon (Internal pudendal a.), 1.5mmx10mm balloon (orifice of penile a.).
Rt. internal pudendal artery was so small. We dilated some stenoses by a 2.0mmx40mm balloon. Stenosis of rt. internal iliac artery was dilated by a 5.0mmx40mm balloon.
Bil. external pudendal artery:

Bil. external pudendal arteries are also dilated by 2.0mmx40mm balloon and 1.5mm x20mm balloon.
After the angioplasty, his penile pain during hemodialysis was disappeared. Ulcer of the glans penis was gradually improved and cured 2 month later.
Penile necrosis:

Rare form of PAD (Ischemia).

Complication of circumcision.

Complication of embolotherapy.
Priapism.
Prostatic hypertrophy and carcinoma.
Ureteral bleeding.

Often need penectomy
Ischemic penile gangrene is a rare form of peripheral arterial disease. As severe calcifications of the entire arteries, arterioles and capillaries are often observed and called calciphylaxis.

Poor prognosis:
69% mortality in 5.5 month follow-up.
(O’neil et al. Urology 2012: 80(1): 5-8.)

Given the poor prognosis of the calciphylaxis, prompt recognition and treatment is necessary.

Tx.: Conservative management (wound care, antibiotics)
Serum Ca. management
Surgical penectomy
Few report of the angioplasty.
(Shiraki T et al: Ann of vasc. Surg 2015. 29(7); 1451.)
Catheter Interventions for pudendal arteries:

Embolization:
- Priapism
- Prostatic hypertrophy and carcinoma

Angioplasty:
- Erectile dysfunction
- Gangrene

To do these procedures safely and effectively, one thing we have to know is the precise anatomy of the pelvis:
Arterial anatomy of the pelvis.

- Common Iliac a.
- Ext. Iliac a.
- Int. Iliac a.
- Iliolumber a.
- Lat. Sacral a.
- Sup. Glu. a.
- Umbilical a. (vesical a.)
- Obturator a.
- Int. pudendal a.
- Inf. Glu. a.
- Perineal a.
- Ant. Scrotal a.
- Ext. pudendal a.
- Bulbar a.
- Post scrotal a.

Deep and dorsal penile a.
Arterial anatomy of the penis.

Penis is supplied from both sides. Arteries have connecting channels.

A case of priapism.

Conclusion:

We report a case of penile ischemic gangrene in a hemodialysis patient successfully treated by angioplasty and penile salvage was obtained.

Angioplasty of internal iliac artery and internal/external pudendal artery was effective. Angioplasty is a worth trying procedure for these patients.
Thank you for your attention.
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