

## Penile gangrene following cavernoglandular shunt for priapism: case report

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### ABSTRACT

A 35-year-old man presented with priapism for 24 hours. Cavernoglandular shunt was performed under general anaesthesia. There was bleeding from the operation site necessitating application of a pressure dressing. Penile skin developed, progressing from the glans to complete gangrene of the distal half of the penis. The patient had amputation of the gangrenous distal half of the penis, debridement of the skin necrosis of proximal half and skin grafting. Penile gangrene is a rare complication following cavernoglandular shunt for priapism and has been reported in all invasive treatment for priapism. Good intraoperative haemostasis, avoidance of urethral catheterisation, local infection and pressure dressing should prevent this complication.

**Key words:** Penis, gangrene, cavernoglandular shunt

### Introduction

Priapism a persistent, painful, purposeless, and pathological penile erection<sup>1</sup> was first described by Trippe in 1845.<sup>2</sup> Several operative treatment modalities including cavernosaphenous, cavernospongiosum and cavernoglandular shunts have been described for the condition.<sup>3-5</sup> Complication rate following these procedures is low and are usually minor.<sup>1,6,7</sup> This is a report of an unusual complication following cavernoglandular shunt.

### Case report

A 35-year-old man presented to the Royal Victoria Hospital, Banjul, the Gambia with a 24-hour history of persistent, painful, penile erection, which started while sleeping. This was the first episode of such symptom; there was no dysuria,

frequency of micturation, haematuria or fever. There was no history suggestive of sickle cell disease or bleeding disorders and he was not a known hypertensive. No history of ingestion of any drug or herbs prior to onset of symptom was obtained.

Physical examination showed a healthy looking man, no pallor, and temperature of 37.2°C. The pulse rate was 90 beats/minute and blood pressure of 110/80 mmHg. The penis was turgid and tender, chest, abdominal and neurological examinations were normal. Packed cell volume was 40%, Haemoglobin genotype AA, white cell count  $5.2 \times 10^9/L$ , neutrophils 72%, lymphocytes 25%, monocytes 3% and there was no blast cell in the blood film. The urine was sterile.

The patient was given intravenous diazepam (10mg) and pentazosine (30mg), and catheterised, emergency surgery was performed under general

anaesthesia, and the findings were; bilateral cavernous bodies turgidity without enlargement of the glans penis and the spongy body of the penis. A cavernoglandular shunt was performed.

Two hours after the procedure, there was bleeding from the stab site, which was controlled by pressure dressing. However, on the 5<sup>th</sup> postoperative day, the skin of the distal one-third of the penis was noticed to be darker and wrinkled. Catheter urine and pericatheter discharge were sent for microscopy, culture and sensitivity and intravenous ampicillin 500mg 6 hourly and gentamicin 80mg 8 hourly commenced. The changes in the skin of the penis progressed proximally to the root of the penis. The distal half of the penis (glans and adjacent part of the shaft) became soft, dark and lost its form (full thickness gangrene) with a line of demarcation between the proximal half and the gangrenous distal half. Amputation of the gangrenous distal half of the penis and debridement of the necrotic skin of the proximal penis was performed. The remaining proximal stump was dressed and subsequently skin grafted.

The patient did well and was discharged home after 42 days. At 4 months of follow up, there was no recurrence of the priapism and there was normal erection in the remaining proximal stump.

## Discussion

Penile Gangrene is a rare complication of priapism and has been reported following all forms of invasive methods of treating priapism including cavernosa aspiration.<sup>8</sup>

Other complications following shunt procedures include, local bleeding, infection, early shunt thrombosis leading to failure of shunt and early recurrence of priapism, pulmonary embolism which may occur in cavernosaphenous shunt, erectile dysfunctions (impotency, delay detumescence, delay ejaculation) and urethral stricture when there is injury to the urethral during shunt procedure. The ability to have erection in this patient does not indicate normal sexual function. Coitus will be difficult because of

absence of the glans and reduction in the length of the penis.

A review of the English literature showed 15 reported cases or partial or total penile necrosis.<sup>10</sup> In a review by Khorcaty and Schick<sup>10</sup> certain factors were found to be present in these patients that developed penile necrosis following priapism; these were local infection, pressure dressing, and presence of urethral catheter; oedema and ischaemia of the corpus cavernosum. Not all of these factors were present in the entire patient in the previous 15 cases reports. In the present report, local infection, pressure dressing, use of a urethral catheter and oedema were present; and may well have acted together to produce penile gangrene.

In order to avoid this complication, meticulous haemostasis should be achieved to avoid the need for pressure dressing. In the presence of cavernosa oedema, suprapubic cystostomy may be necessary. Prophylactic antibiotics may be necessary to reduce the risk of infection.

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