



## Case Report

# Management of Delayed Priapism

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### Abstract

Priapism is a disorder of persistent penile erection unrelated to sexual interest or desire. This pathologic condition, specifically the ischemic variant, is often associated with devastating complications, notably erectile dysfunction. This case is about a 35 year old gentleman who presented with four day old priapism. He was tried with irrigation and aspiration in another hospital with unsatisfactory resolution of the condition. Following admission duplex study was done which confirmed low flow priapism. After thorough evaluation glanulocavernous shunt was done and detumescence of the penis was established within first 24 hour.

**Keywords:** Priapism, detumescence, glanulocavernous shunt

### Introduction

Priapism is a persistent penile erection that continues for hours beyond, or is unrelated to, sexual stimulation. Priapism requires a prompt evaluation and usually requires an emergency management. There are two types of priapism: 1) ischemic (veno-occlusive or low-flow), which is found in 95% of cases, and 2) nonischemic (arterial or high-flow). Stuttering (intermittent or recurrent) priapism is a recurrent form of ischemic priapism. To initiate appropriate management, the physician must decide whether the priapism is ischemic or nonischemic. In the management of an ischemic priapism, resolution should be achieved as promptly as possible. Initial treatment is therapeutic aspiration with or without irrigation of the corpora. If this fails, intracavernous injection of sympathomimetic agents is the next step. Surgical shunts should be performed in cases involving

failure of nonsurgical treatment. The first management of a non ischemic priapism should be observation. Selective arterial embolization is recommended for the management of non ischemic priapism in cases that request treatment. The goal of management for stuttering priapism is prevention of future episodes. Here we present a delayed case of low flow priapism (four day old) recently admitted in Enam medical college and Hospital.

### Case report

On 20<sup>th</sup> August 2018 A 35-year-old non smoker, non alcoholic, married person got admitted in this hospital with complaints of persistent erection of penis for last four days. He told that he took some homeopathic powdered dug orally 4 days ago prior to have sexual intercourse and following which he had his erection. After completing the act his erection did not resolve. He was taken to another hospital where irrigation and aspiration was tried but detumescence could not be achieved. Then he was referred to this hospital.

On examination he was a anxious but conscious and well oriented. His pulse rate was 76/min and BP= 120/70 mm of Hg. Penis was hard, erected having foley catheter in situ. The glans and the spongiosum was soft (Pic. -1). All other systemic examination revealed no abnormality.

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Duplex study of penile vessels revealed absent flow in both cavernosal arteries and their helicine branches suggestive of ischemic priapism (Low flow), Dilated sinusoidal spaces surrounding the cavernosal arteries, blood flow present in superficial dorsal artery and vein.



**Pic.- 1.** Preoperative Tumescent penis

After establishing the diagnosis and adequate counseling with him and his wife he was operated under general anesthesia. A corpora cavernosa-glans shunt was created with tunneling of both cavernosa. "Al-Ghorab" method was followed to create the shunt. All the trapped deoxygenated blood were evacuated. After that complete degloving of penis was done and both cavernosa were incised on the ventral aspect for tunneling it from proximal to distal direction. A drain tube was kept in the subcutaneous plane of penis to prevent scrotal edema. After the procedure partial detumescence was achieved initially followed by completeness of it within first 24 hour. His post operative recovery was uneventful. He was regularly followed up and dressing was done. On 7th Post operative day another duplex study was done which revealed normal blood flow within the cavernosal arteries and the dorsal vessels of the penis. He was discharged on 8<sup>th</sup> post operative day with the necessary advices (Pic. 2-7).



**Pic. -2.** Sub-coronal transverse incision



**Pic.-3.** Cone excision of both corporal tissue & trapped blood shunted to glans.



**Pic.-4.** Corpora tunneled with dilator from distal to proximal direction.



**Pic-5.** Penis degloved & corpora tunneled from proximal to distal direction.



**Pic -6.** Detumescence after 24 hour



**Pic.-7.** Penis during discharge.

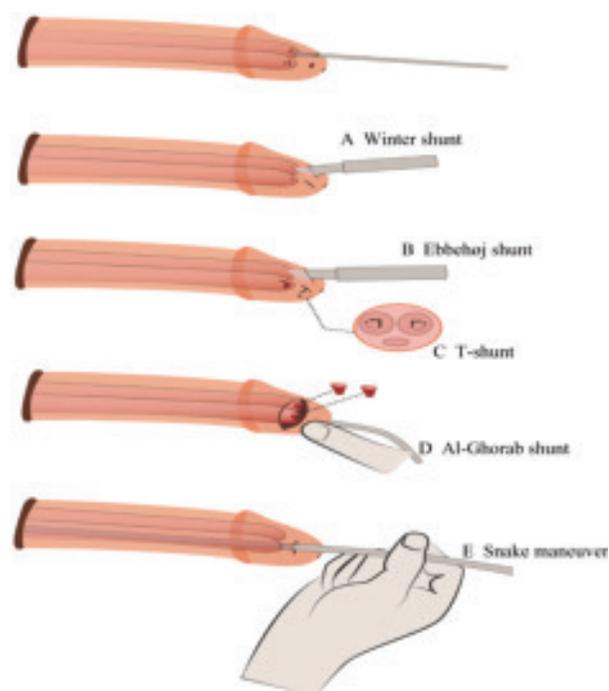
### Discussion

There are several methods to achieve detumescence in case of priapism. If the patient presents very early then aspiration of trapped blood followed by irrigation of cavernosa can be done. Intracorporal adrenalin injection is also another acceptable method. Adrenaline is an alpha-adrenoreceptor agonist that causes vasoconstriction. This agent has been extensively studied with regard to its efficacy in the control of priapism.<sup>1-3</sup> Numerous clinical trials using multiple doses format as injection inside corpora cavernosa have demonstrated tremendous efficacy for detumescence of priapic penis<sup>3-4</sup>.

Ischemic priapism continuing for more than 48 hours is difficult to resolve by corporal aspiration, irrigation, and sympathomimetic injection. Thus, more immediate surgical shunting should be considered as another management option in such cases. The goal of surgical shunting is to make an iatrogenic fistula to drain the pooled deoxygenated blood from the corpora cavernosa. Various types of shunting technique are

there to achieve detumescence. Winter, Ebbehøj, T-shunt, Al-Ghorab.

The slugged blood evacuated from the corpora through a large bore needle (Winter). The addition of adrenergic injection via intracavernous irrigation has proved helpful<sup>5-9</sup>. Multiple wedges of tissue can be removed via a true-cut biopsy needle to create a shunting fistula between the glans penis and corpora cavernosa. This fistula can also be created by opening the glans and excising a cone of tissue including the tunica albuginea from the cavernosa so that all of its blood gets drained in to the spongiosum. This technique, which has been very successful, provides an internal fistula to keep the corpora decompressed. Our technique was similar to those techniques<sup>10-12</sup> (Fig: 1).



**Fig.-1:** Different types of surgical shunt

The traditional surgical approach (Al-Ghorab shunting) is a dorsal sub coronal incision, which is performed by excising a piece of the tunica albuginea at the tip of the corpus cavernosum.<sup>13-15</sup> Burnett developed a technique involving dilatation of the cavernous tissue using a Hegar dilator (Burnett shunting)<sup>16</sup>. Some previous reports have noted that open distal shunting causes no more erectile failure than that caused by ischemic priapism itself, and shows excellent success rates even in patients who failed treatment with percutaneous distal shunting<sup>14,17</sup>.

In our patient, as the case was delayed one there was no other option than doing a shunt. Al-Ghorab shunting with dorsal sub coronal incision with Burnett technique of dilatation of cavernous tissue was done to evacuate the trapped blood. The result was not satisfactory initially. The penis was degloved by a circumferential incision and cavernosa were incised on the ventral aspect. Now again dilatation was done from proximal to distal direction which helped to evacuate the proximal cavernosal trapped blood. This was a new technique which was tried in this patient and there was acceptable level of detumescence after the procedure. The advantage of Al-Ghorab over other is it ensures wide opening of the internal fistula and allows better shunting of the trapped blood to the spongiosum.

### Conclusion

With the detumescence procedure for priapism in our case, we believe that our technique is highly effective. Therefore, we recommend shunt surgery preferably Al-Ghorab method along with the tunneling of both cavernosa with dilatation in both direction as depicted in this case which allow the drainage of proximally deoxygenated blood into the spongiosum and allows early as well as effective detumescence.

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