Case Report

Treatment of recurrent priapism using proximal shunt: Quackles technique

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Abbreviation & Acronym
RP = recurrent priapism

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Introduction: Recurrent priapism is a rare variant of ischemic priapism that involves recurrent erections typically lasting less than 4 h. The primary goal of treatment is to prevent future episodes, with options ranging from pharmacological treatments to various surgeries.
Case presentation: A 38-year-old man experienced multiple episodes of priapism that were refractory to angioembolization of an arteriocavernous fistula and oral treatment with Cetirizine and Bicalutamide. After the patient refused intracavernous self-injections, various surgical options were considered. Ultimately, a proximal penile shunt surgery with a cavernosal–spongiosal shunt using the Quackles technique was chosen, which proved effective in preventing episodes and did not affect the patient's erectile function.
Conclusion: Penile shunt surgery using the Quackles proximal technique is a safe and effective option for the treatment of recurrent priapism.

Key words: Erectile disfunction, Penile shunt, Penile surgery, Recurrent priapism.

Keynote message

This article provides valuable clinical experience in treating recurrent priapism through proximal shunt surgery, an option rarely documented in the literature. The positive results achieved in this case reinforce the relevance of this technique for recurrence control, offering a foundation for future research and guiding similar cases in clinical practice.

Introduction

RP is a rare variant of ischemic priapism, characterized by recurrent penile erections that generally last less than 3 or 4 h per episode and are usually self-limiting.[1] Management of the acute episode does not differ from that of ischemic priapism. However, one of the goals of treatment is the prevention of future episodes, with various treatments available, such as oral medications, intracavernous injections, or surgeries using distal or proximal shunts, or penile prosthesis implantation.[2,3] We present the case of a man diagnosed with RP who underwent surgery using a proximal shunt according to the Quackles technique.

Case presentation

A 38-year-old male patient with no relevant medical history presented with up to four episodes of RP over a 12-month period, with variable durations between 4 and 12 h. Acute episodes were treated with drainage and irrigation of the corpora cavernosa using saline solution. Hematological studies ruled out any underlying pathology. Between the second and third episodes, an arteriography was performed, revealing a right arteriocavernous fistula (Fig. 1), which was embolized in two unsuccessful attempts. After a new recurrence, treatment with oral Cetirizine and Bicalutamide was initiated. The patient developed side effects from Bicalutamide, including irritative genitoperineal eczema and painful gynecomastia, leading to the

Fig. 1 Arteriography showing the arteriocavernous fistula from the right penile artery, just before embolization.

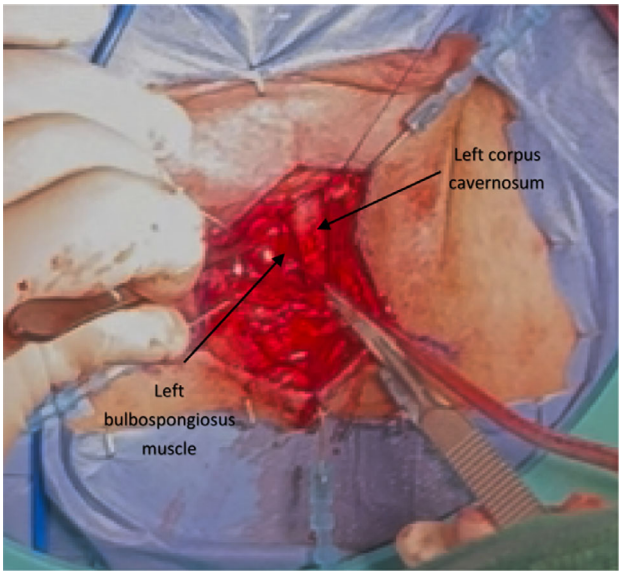

Fig. 2 Making the incision in the left corpus cavernosum.

discontinuation of the treatment, after which a new recurrence occurred. The options considered included intracavernous self-injections of phenylephrine (which the patient declined), penile shunt surgery, or definitive treatment through corpora cavernosa drilling and penile prosthesis implantation. After discussing the risks and benefits of both techniques with the patient, the decision was made to proceed with surgery using a proximal shunt according to the Quackles technique.

An inverted Y-shaped perineal incision was made. The superficial perineal fascia was dissected, identifying the bulbospongiosus muscle and freeing its lateral surfaces. A 1-cm incision was made in the left bulbospongiosus muscle posterior to the bulbar urethra. The left ischiocavernosus muscle was incised, the left corpus cavernosum was exposed, and a 1-cm opening was made (Fig. 2). An anastomosis was performed between the left corpus cavernosum and the left bulbospongiosus muscle using two continuous hemisutures with 2/0 absorbable monofilament (Fig. 3). The left ischiocavernosus muscle and perineal fascia were closed with 3/0 absorbable monofilament. The skin was closed with 2/0 absorbable monofilament.

After 1 day of hospitalization, with clinical and analytical monitoring and confirmation of the absence of hematuria and pain, the patient was discharged. After 9 months of follow-up, the patient has not experienced any further episodes of priapism and reports having sufficient erections to engage in penetrative sexual intercourse and complete coitus. The scores on the PGI-I and SHIM questionnaires are 1 and 24, respectively, indicating high satisfaction and good erectile function.

Discussion

The first line of treatment typically used for recurrent priapism consists of oral medications, particularly those that induce hypotestosteronism.[4] Among these are GnRH analogs, antiandrogens, estrogens, and finasteride. The best results have been reported with oral bicalutamide.[5,6] Other mentioned drugs include antihistamines,[7] digoxin, terbutaline, baclofen, gabapentin, hydroxyurea, and phosphodiesterase-5 inhibitors.[8,9] For patients who do not respond to the previous treatments, temporary intracavernous self-injections with sympathomimetics can be considered.[10]

In cases of recurrent priapism refractory to conservative treatment, penile shunt surgeries can be offered, with the aim of redirecting ischemic blood from the corpora cavernosa to the spongy tissues, thereby restoring normal circulation. The choice of procedure depends on the surgeon's preference and familiarity with the technique, as the results of various studies are heterogeneous, making it difficult to establish firm recommendations. Distal shunt surgeries are less invasive and have a lower rate of postoperative erectile dysfunction, but they are less effective in resolving priapism due to early shunt closure.[11,12] Proximal shunts are more invasive and have a higher rate of priapism resolution, but they are also associated with higher rates of erectile dysfunction, and a risk of urethral injury and urethrocavernous fistula.[13]

Table 1 provides a summary of the main penile shunt surgical techniques.

Finally, when all other methods fail, cavernous drilling can be performed to definitively resolve the priapism, with the option of penile prosthesis implantation, which can be done in the same surgical procedure or a few weeks later to avoid cavernous fibrosis and difficulty in implantation.[2] There is more experience with malleable prostheses.[17]

In the presented case, oral treatment with Bicalutamide and Cetirizine was initially attempted, following guideline recommendations. After discontinuation due to adverse effects, and the patient's refusal of intracavernous injections and penile prosthesis, penile proximal shunt surgery using the Quackles technique was chosen. We performed this technique aiming

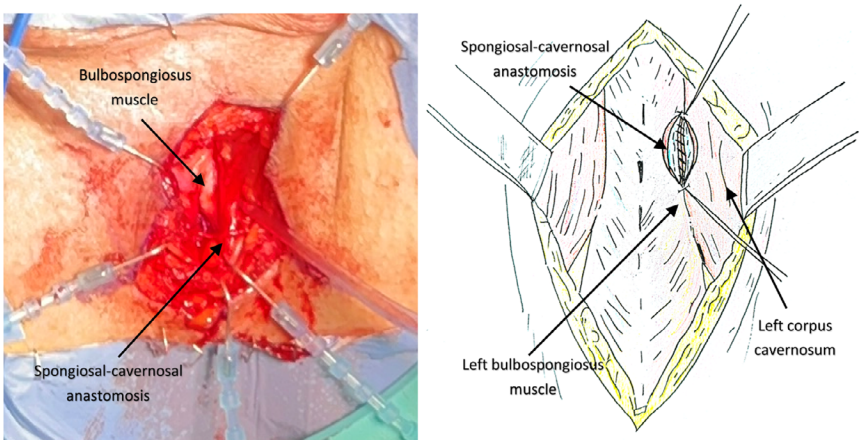

Fig. 3 Anastomosis between left corpus cavernosum and left bulbospongiosus muscle (left), and an explanatory illustration before closing the second hemisuture and completing the anastomosis (right).

Table 1 Penile diversion surgical techniques[11–16]

Technique	Shunt type	Approach	Involved structures	Success rate (%)	Posoperative erectile dysfunction (%)	Reported serious complications
Winter	Distal	Percutaneous	Corpora cavernosa-Glans	14–100	17–90	No
Ebbehoj	Distal	Percutaneous	Corpora cavernosa-Glans	61–73	39	No
T-Shunt	Distal	Percutaneous	Corpora cavernosa-Glans	64–92	38–90	No
Al-Ghorab	Distal	Open	Corpora cavernosa-Glans	50–74	>50	No
Burnett	Distal	Open	Corpora cavernosa-Glans	80	100	Urethrocavernous fistula
Quackles	Proximal	Open	Corpora cavernosa-Spongiosum (Unilateral)	77	50	Urethrocavernous fistula, urethral stricture, cavernositis
Grayhack	Proximal	Open	Corpora cavernosa-Saphenous vein	76	50	Pulmonary embolism

for higher efficacy in resolving priapism (between 75% and 85%) and a low recurrence rate (20%–30%). In the case of distal shunts, however, the efficacy rate is 60%–75%, with a recurrence rate of 30%–40%. It was performed unilaterally to minimize the impact on erectile function.

There is limited literature on the presented pathology and the surgical technique used, making this work a potential guide for managing cases of recurrent priapism where surgical techniques are considered. These same characteristics highlight the need for more scientific studies on this complex pathology to establish generalized conclusions for new patients. It is also important to follow the patient for a longer period to assess the long-term outcomes of the technique.

Conclusion

Proximal shunt using the Quackles technique could be an alternative for the treatment of recurrent priapism. We report a case in which we experienced a favorable postoperative course using this technique.

Author contributions

Miguel Toledo Jiménez: Conceptualization; methodology; investigation; formal analysis; writing – review and editing; writing – original draft. David Carracedo Calvo: Conceptualization; investigation; methodology; formal analysis; writing – original draft; writing – review and editing. Pietro Moscatiello: Methodology; conceptualization. Alessandro Fiorillo: Methodology; conceptualization. Rebeca Quintana Álvarez: Conceptualization; methodology. Nathalie Pereira Rodríguez: Conceptualization; methodology. Irene Hernández Bermejo: Conceptualization. Iñigo Miñana Toscano: Conceptualization. Miguel Sánchez Encinas: Conceptualization; methodology.

Conflict of interest

The authors declare no conflict of interest.

Approval of the research protocol by an Institutional Reviewer Board

Not applicable.

Informed consent

It is implicit in the surgery form that the case material may be used for scientific purposes.

Registry and the Registration No. of the study/trial

Not applicable.

References

1 Liguori G, Rizzo M, Boschian R *et al*. The management of stuttering priapism. *Minerva Urol. Nefrol.* 2020; **72**: 173–86.

2 Abdeen BM, Leslie SW. Stuttering priapism. In: *StatPearls [Internet]*. StatPearls Publishing, Treasure Island (FL), 2024. http://www.ncbi.nlm.nih.gov/books/NBK574517/.

3 Vazquez Gonzalez JR, Cortez Betancourt R, Alvarez Lopez JG, Cortez Ramirez D, Garcia Rivera OU. Treatment of refractory ischemic priapism: a case report and literature review. *Cureus* 2023; **15**: e39882.

4 Bivalacqua TJ, Musicki B, Kutlu O, Burnett AL. New insights into the pathophysiology of sickle cell disease-associated priapism. *J. Sex. Med.* 2012; **9**: 79–87.

5 Dahm P, Rao DS, Donatucci CF. Antiandrogens in the treatment of priapism. *Urology* 2002; **59**: 138.

6 Yamashita N, Hisasue S, Hisasue S *et al*. Idiopathic stuttering priapism: recovery of detumescence mechanism with temporal use of antiandrogen. *Urology* 2004; **63**: 1182–4.

7 Jensen RT, Collen MJ, Pandol SJ *et al*. Cimetidine-induced impotence and breast changes in patients with gastric hypersecretory states. *N. Engl. J. Med.* 1983; **308**: 883–7.

8 European Association of Urology. Guidelines on priapism. In: *EAU Guidelines 2023*. EAU, Arnhem (NL), 2023; 144–5.

9 Hou LT, Burnett AL. Regimented phosphodiesterase type 5 inhibitor use reduces emergency department visits for recurrent ischemic priapism. *J. Urol.* 2021; **205**: 545–53.

10 Levey HR, Kutlu O, Bivalacqua TJ. Medical management of ischemic stuttering priapism: a contemporary review of the literature. *Asian J. Androl.* 2012; **14**: 156–63.

11 Zacharakis E, Raheem AA, Freeman A *et al*. The efficacy of the T-shunt procedure and intracavernous tunneling (snake maneuver) for refractory ischemic priapism. *J. Urol.* 2014; **191**: 164–8.

12 Lue TF, Pescatori ES. Distal cavernosum-glans shunts for ischemic priapism. *J. Sex. Med.* 2006; **3**: 749–52.

13 Johnson MJ, Kristinsson S, Ralph O, Chiriaco G, Ralph D. The surgical management of ischaemic priapism. *Int. J. Impot. Res.* 2020; **32**: 81–8.

14 Montague DK, Jarow J, Broderick GA *et al*. American Urological Association guideline on the management of priapism. *J. Urol.* 2003; **170**: 1318–24.

15 Burnett AL. Surgical management of ischemic priapism. *J. Sex. Med.* 2012; **9**: 114–20.

16 Reed-Maldonado AB, Kim JS, Lue TF. Avoiding complications: surgery for ischemic priapism. *Transl. Androl. Urol.* 2017; **6**: 657–65.

17 Tausch TJ, Zhao LC, Morey AF *et al*. Malleable penile prosthesis is a cost-effective treatment for refractory ischemic priapism. *J. Sex. Med.* 2015; **12**: 824–6.