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CASE REPORT

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Paediatric priapism—treatment conundrum

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Abstract Priapism is a rare condition in childhood. The majority of reported cases are boys with sickle cell disease, in whom nonoperative management may be successful when patients present early. We report a 14-year-old boy with sickle cell disease who presented with priapism of 72-h duration and was successfully treated by bilateral saphenocorporal shunts.

Keywords Priapism · Saphenocorporal shunts

Introduction

Priapism was first described by Tripe in 1845 as persistent, usually painful erection not necessarily associated with sexual stimulation or desire. It is associated with a wide range of aetiologies, one of the most common of these being sickle cell disease. Delay and unsuccessful treatment leads to corporal fibrosis and impotence.

Case report

A 14-year-old boy of Afro-Caribbean descent was referred to us with a painful persistent erection of 72-h duration. He was known to have sickle cell disease. There was no history of recurrent stuttering episodes of priapism in the past. He had received various medical therapies, including ice packs, analgaesics and antispasmodics, none of which were successful. On examination, the boy was distressed but normal apart from the turgid penis. The abdomen was soft and unremarkable. Because of the delay in presentation and the failure of conservative management, operative intervention was undertaken. Corporal aspirations and lavage were carried out with limited success. A glans-corporal shunt was attempted, making incisions from the dorsum of the glans extending into the corpus cavernosum on each side. However, this failed to produce sustained detumescence. Following this, a right saphenocorporal shunt was carried out. This failed to achieve complete detumescence; hence, a saphenocorporal shunt was performed on the contralateral side. (Fig. 1, Fig. 2) This was successful in producing a completely flaccid penis.

The patient was treated with broad-spectrum antibiotics and analgaesia and was discharged after 8 days. (Fig. 3) The 4-month period of follow-up has been uneventful. A Doppler examination 4 months after the operation showed that the shunts were no longer patent. The patient is having normal erections.

Discussion

The term "priapism" comes from the name of the Greek god Priapus, the son of Aphrodite, the goddess of sexual love, beauty and feminine fertility. The prevalence of priapism in children with sickle cell disease has been estimated at 2–6% [1, 2]. Priapism is classified as low-flow or high-flow; most sickle cell patients with priapism have low-flow priapism due to sickling and sludging in the corporal spaces. Priapism generally affects the corpora cavernosa, with preservation of blood flow to the glans and corpus spongiosum. However, tricorporeal priapism has also been described in sickle cell patients [3, 4]. Intervention in the form of icepacks, analgaesia, sedation, hydration, oxygenation and blood transfusion may be helpful in the initial 10–12 h of symptoms [5]. If the priapism remains unresolved, surgical intervention is indicated [5]. However, the appropriate mode of surgical intervention remains uncertain, as no single definitive therapy has been established. The goal of treatment is detumescence with relief of associated pain and preservation of potency.

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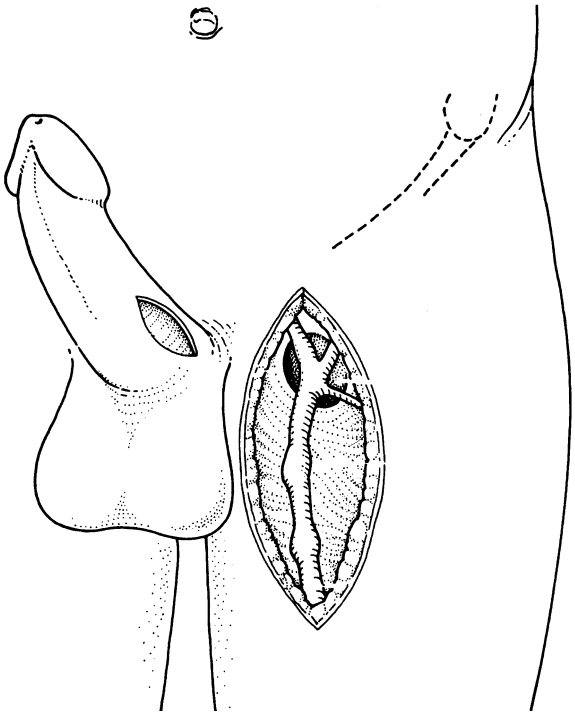

Fig. 1 Saphenocorporal shunts—window in the buck's fascia and saphenous vein exposed

Despite a delay of over 72 h, our patient had a successful outcome following bilateral saphenocorporal shunts. Grayhack et al. [6] have reported successful drainage of the corpora by means of a single saphenocorporal vein shunt in an adult patient who had priapism for 10 days. Postoperatively, the patient had remained potent 16 months after the surgery. Studies comparing saphenocorporal and corporospongiosum shunts [7] have shown both to be effective in establishing drainage of the engorged penis [8].

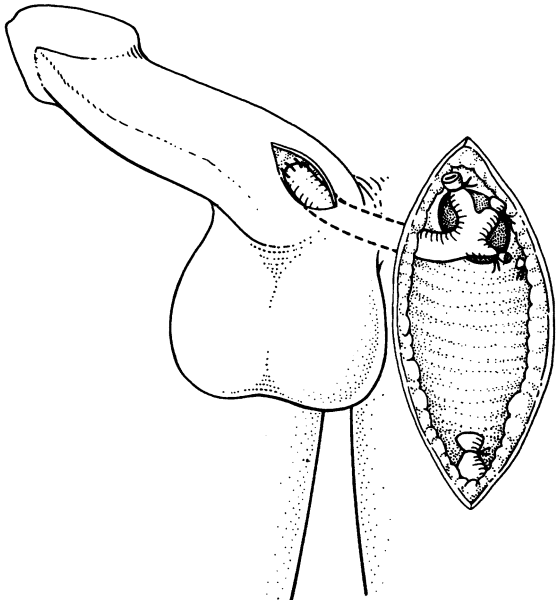

Fig. 2 Saphenocorporal shunt—completed anastomosis

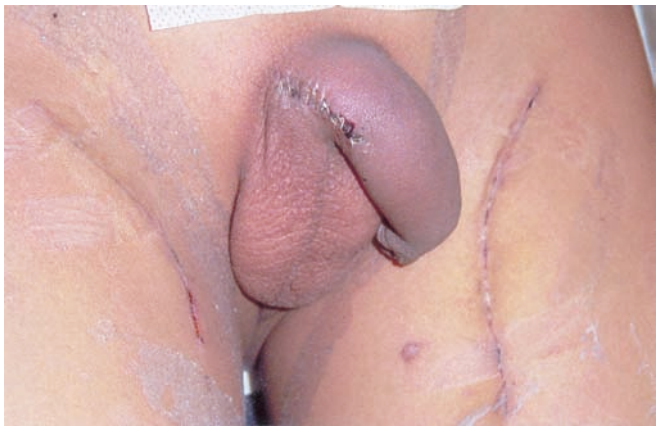

Fig. 3 Postoperative picture

The duration of priapism is important in determining the eventual outcome. The earlier the appropriate therapy is initiated, the better the likelihood of obtaining detumescence and preserving erectile ability. Moloney et al. [9] have reported uniformly good functional results if priapism is resolved within 36 h of onset. Bertram et al. [10] noted that the mean duration for patients who had a successful outcome was 15 h, whereas for those patients in whom the treatment did not succeed, the mean delay was 64 h. In the present case, however, the patient is potent even after a delay of 72 h.

Though it has been suggested that priapism in children with sickle cell disease may have a better prognosis than in adults [11, 12, 13], neither a precise assessment of risk nor clear management guidelines for the paediatric population are available. It is supposed that impotence may be due to delay in carrying out surgery in severe cases because of the mistaken belief that paediatric priapisms may resolve spontaneously [5]. Whatever the cause, the factor that determines the chance of retaining potency for the patient is the speed with which detumescence is achieved [5]. Therefore, if a unilateral saphenocorporal shunt fails to achieve the desired result, an additional shunt on the contralateral side may be helpful.

References

1. Hasen HB, Raines SL (1962) Priapism associated with sickle cell disease. J Urol 88:71
2. Tarry WF, Duckett JW, Snyder HM III (1987) Urological complications of sickle cell disease in pediatric population. J Urol 138:592
3. Hashmat AI, Raju S, Singh I, Macchia RJ (1989) 99mTc penile scan: an investigative modality in priapism. Urol Rad 11:58
4. Sharpsteen JR, Powars D, Johnson C, Rogers ZR, Williams WD, Posch RJ (1993) Multisystem damage associated with tricorporal priapism in sickle cell disease. Am J Med 94:289
5. Dewan PA, Tan HL, Auldist AW, Moss DI (1989) Priapism in childhood. Br J Urol 64:541
6. Grayhack JT, McCullough W, O'Connor VJ, et al. (1964) Venous bypass to control priapism. Invest Urol 1:509

7. Quackels R (1964) Cure d'um los de priapisme per anastome cavernosporgiense. Acra Urol Belg 32:5
8. Dahl DS, Middleton RG (1974) Comparison between cavernosaphenous and cavernospongiosum shunting in the treatment of idiopathic priapism: a report of five operations. J Urol 124:614
9. Moloney PJ, Elliott GB, Johnson HW (1975) Experiences with priapism. J Urol 114:72
10. Bertram RA, Webster GD, Carson CC (1985) Priapism: etiology, treatment and results in series of 35 presentations. Urology 26:229
11. Kinney TR, Harris MB, Russell MO, Duckett JW, Schwartz E (1975) Priapism in association with sickle hemoglobinopathies in children. J Ped 86:241
12. Seeler RA (1973) Intensive transfusion therapy for priapism in boys with sickle cell anemia. J Urol 110:360
13. Hamre MR, Harmon EP, Kirkpatrick DV, Stern MJ, Humbert JR (1991) Priapism as a complication of sickle cell disease. J Urol 145:1