



Trauma and reconstruction

Matador injury case report: Spermatic cord fat pad (SCFP) interposition to support complex pelvic reconstruction-a novel technique

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Introduction

In the medical literature, gore trauma to the perineum has been described in numerous case reports, due to the unique features of each individual injury and the tusks' unusual impact mechanisms.¹

The objective of initial surgery is defunctioning of the severed structures, while late reconstruction is required for the optimal repair of the injuries.²

An important reconstructive principle applicable in such cases is the separation of overlapping suture lines by interposition of vascularised tissue. In the pelvis, the surgical options for such an endeavor are limited; thus this novel description of the Spermatic Cord Fat Pad (SCFP) as a ubiquitous, easily accessible and well-vascularised graft can be very useful in challenging cases.

Case presentation

A 34 year-old farmer was injured in the bush by a direct blow from the horn of a buffalo into his perineum. At the local hospital where he was initially taken, after resuscitation, he received a defunctioning colostomy for the obvious rectal wound and a suprapubic catheter, for his urinary retention.

Three months later, he was assessed and treated in the specialist urology unit.

Clinical examination and imaging investigations at this point confirmed the suspected injuries: transection of his urethra, a complete anterior anal sphincter rupture and a recto-urethral fistula (Fig. 1).



Fig. 1. Combined Antegrade and retrograde Urethrogram to assess the extent of the injury pre-operatively.

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Fig. 2. Point of Technique I: Incision of the tunica vaginalis is the first step for mobilization of the PhilA Pad.
Point of Technique II: Fully mobilized SCFP graft-the PhilA Pad.
Point of Technique III: Tension-free delivery of the SCFP graft/PhilA Pad into the wound.

In preparation for his definitive surgery, an enema was administered three hours pre-operatively. Peri-operatively, the intravenous prophylactic antibiotics given were Cefuroxime and Metronidazole. Under a spinal anesthetic, the patient was placed in the lithotomy position.

Through a mid-line perineal incision the disrupted anterior anal sphincter was identified and mobilized; the ends were freshened and subsequently located with stay sutures. The anterior rectal wall was dissected, the fistula tract was identified and the defect in the anterior rectal wall was then closed in two layers with 4.0 Vicryl.

The disrupted urethra was mobilized proximally and distally and after spatulation, the repair was carried out with interrupted 4.0 vicryl sutures over a Fr16 catheter. The anal sphincter was repaired using an overlapping technique with 3.0 vicryl suture. The left SCFP was harvested; it was dissected distally from the testis by dividing the covering fascia and dissecting the fat from the deeper fascial layer surrounding the cord, mobilising proximally to the superficial inguinal ring. Care was taken in order to avoid disrupting its proximal blood supply.

The resulting 15 cm fat pad was delivered into the wound, allowing tension-free interposition between the urethral and rectal suture lines and was then anchored with vicryl suture.

The incision was closed in two layers with absorbable sutures and no drain was used (Fig. 2: Point of Technique I, II and III).

The suprapubic catheter was removed on day 10 post-operatively.

At three months, contrast studies confirmed urethral continuity with no leak. The urethral catheter was then withdrawn with normal voiding and two months later, a colostomy reversal was performed.

No further problems have been reported since.

Discussion

Male perineal gore injury, commonly referred to as 'Matador Injury',⁴ is infrequently described in the medical literature. The surgical treatment of such an injury to a Tanzanian farmer, causing a combination of rectal, urethral and anal sphincter injuries, with a resulting recto-urethral fistula, is described.

According to the principles of reconstruction, in these cases, the overlapping suture lines of repaired rectum and urethra increase the risk of recurrent fistulation.⁵ Grafts' interposition can reduce the risk of such recurrence. In the pelvis, vascularised omentum and gracilis muscle are most often described but for omental grafting a laparotomy is required and for gracilis muscle, often too bulky a graft, significant dissection.^{2,3,5}

We believe this is the first report of an interposition graft using the spermatic cord fat pad. On this occasion only one graft was used; clearly, though, there is the option to harvest two grafts, even simultaneously.

The use of the fat pad of the spermatic cord has not been described

before; it has reliable proximal vascular supply, it is easily mobilized and it is exposed with minimal prolongation of the operative time, via the same perineal surgical incision.

Martius Fat Pad (MFP) harvesting from the labia majora is a well-recognized technique in pelvic reconstructive surgery of the female patient. The SCFP is similar anatomically and thus perhaps can be described as the MFP equivalent, in men; we name it the PhilA Pad.

Conclusions

Gore injuries, despite their usually small entry site, can be very disruptive internally and thus, must be approached with an open mind upon initial assessment and a very low threshold of suspicion regarding their extent.

In our case report, the left spermatic cord fat pad was employed as a graft, to separate the suture lines of the urethral and rectal repairs. Its use reduced the risk of a recto-urethral fistula recurrence and contributed to the satisfactory outcome of the surgery.

We believe we are the first to report the use of SCFP as a graft in pelvic reconstructive surgery. Given that its mobilization is simple, reproducible and compares very favourably to the more complex and extensive surgeries required for mobilising the commonly used alternatives, Spermatic Cord Fat Pad, may be a useful adjunct in complex pelvic reconstruction in men; PhilA Pad perhaps is the MFP equivalent.

Disclosure

No conflicts of interest exist for any of the authors.

Written informed consent for publication of the patient's clinical details and clinical images was obtained from the patient.

Appendix A. Supplementary data

Supplementary data related to this article can be found at <http://dx.doi.org/10.1016/j.eucr.2018.03.016>.

References

1. Shattock FM. Injuries caused by wild animals. *Lancet*. 1968;1:412–414.
2. Nyam DC, Pemberton JH. Management of iatrogenic rectourethral fistulae. *Dis Colon Rectum*. 1999;42(8):994–997.
3. *Grant's Atlas of Anatomy*. fifth ed. London, UK: Williams & Wilkins; 1985.
4. Lloyd MS. Matador versus taurus: bull gore injury. *Ann R Coll Surg Engl*. 2004 Jan;86(1):3–5.
5. Jai S, Ganpule A, Singh A, et al. Case Report: use of reinforced buccal mucosa graft over gracilis muscle flap in management of post high intensity focused ultrasound (HIFU) rectourethral fistula. *F1000Research*. 2017;5:2891.