Case report

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A single stage urethroplasty with dorsal onlay buccal mucosal graft for long segment anterior urethral stricture caused by Balanitis Xerotica Obliterans through a perineal incision

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Introduction

Balanitis Xerotica Obliterans (BXO) or Lichen Sclerosus is a common condition which can affect the foreskin, glans penis, meatus and the urethra. It may lead to urethral strictures which could involve the entire urethra. Numerous procedures either single or staged have been described and advocated to treat this condition with variable outcomes. We report a single stage perineal approach procedure for a long anterior urethral stricture with a good outcome.

Case report

A 48 year old male presented with features of urinary tract infection for 2 days with a long standing history of bladder outflow obstructive symptoms. He had BXO involving inner and outer prepuce, glans penis and the meatus. Cystourethroscopy under anaesthesia was attempted but abandoned as the scope could not be negotiated even after meatal dilatation. A supra pubic catheter was inserted and combined urethrography was arranged to assess the urethra which revealed a long segment stricture involving the entire anterior urethra (Figure1) of approximately 12 cm in length.

Single stage buccal mucosal graft urethroplasty was offered under general anaesthesia with nasal intubation. Patient was positioned in the lithotomy and circumcision was performed. The penis was de-gloved up to the penoscrotal junction and bulbar urethra was approached through a separate midline perineal incision. The bulbospongiosus muscle was separated in the midline. The bulbar urethra was dissected out from perineal corporal bodies and slung. The penis was invaginated and delivered through the perineal wound (Figure 2). Anterior urethra was mobilised off from the corporal bodies instead of lateral mobilisation, to achieve a good bed for the buccal mucosal graft. Mobilisation continued up to the navicular fossa (Figure 3). Concentrated methylene blue was injected in to the urethra to identify the urethral lumen and facilitate suturing of the urothelium. Diseased urethra was laid open on the dorsal

aspect from the navicular fossa down to the normal bulbar urethra followed by dorsal urethral meatotomy.

Figure 1.

Buccal mucosa harvested from both cheeks (6 x 2 cm each) were prepared and sutured to meatus dorsally. After securing at the meatus the graft was delivered through the meatus to place it in between urethra and the corpora cavernosa up to the normal bulbar urethra (Figure 4). Three columns of quilting sutures were applied to the buccal mucosa. One edge of the urothelium of urethra was sutured to the buccal mucosa with 3 0 polyglactin. 16Fr silicone catheter was inserted. The Neo urethra was created with approximating the buccal mucosal edge to the spongiosum over the catheter with continuous suture.

Figure 2.

Figure 3.

Figure 4.

Figure 5.

Invaginated penis is repositioned and the skin is sutured to the inner prepuce similar to circumcision repair. Layered closure of the perineal wound was undertaken and crepe bandage was applied gently to the penis which was removed the following day. Buccal mucosal harvested sites were closed primarily. Post operatively the patient was advised to have liquids on the day of operation and less spicy diet was started from the following day. Chlorhexidine mouth wash was prescribed 4 times a day and catheter was kept for one month. Trial without catheter was successful and patient voided without difficulty. Flexible cystoscopic assessment performed following catheter removal showed no stricture recurrence and a good urethral lumen. Post-operative ascending urethrogram (Figure 5) showed good caliber anterior urethra. His mouth opening was normal and the buccal harvest site healed with no complications.

Discussion

BXO is a common condition which affects genital skin of the prepuce and the glans in males and it can result in long segment urethral strictures (1) which is a challenge to Urologists. Though there are several approaches with various grafts and bio-engineered scaffolds, only buccal mucosal graft gives the best outcome (2). Scrotal skin or penile skin could not be used due to very high rates of recurrence (4). Dorsal placement of the buccal mucosal graft has better outcomes when compared to ventral. It provides good vascularised bed for graft and prevent pseudo urethral diverticula formation (3). Dorsal inlay (Asopa) urethroplasty can be utilised for anterior urethral strictures with circumferential or non-

circumferential penile skin, a penoscrotal incision or a perineal incision depending on the location of the stricture (5). This technique needs two incisions over the urethra (5). In our case we made a single perineal incision and complete invagination of penis through the perineum which provided access to the whole anterior urethra. To limit the operating time two team approach was adopted where harvesting of the buccal mucosal graft and perineal dissection were performed simultaneously.

References

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