Urinary incontinence after gender-affirming phalloplasty: a comprehensive literature review navigating through uncharted territory

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INTRODUCTION

Phalloplasty with concomitant vaginectomy is an increasingly common gender-affirming procedure. Given the complexity and high urologic complication profile, recent studies have begun to examine rates of post-phalloplasty voiding dysfunction – with urethral stricture, meatal stenosis, and urethral fistula being the most commonly documented [1]. Although the complications of this surgery have been well documented, there have been limited investigations specifically on management of post-operative urinary incontinence (UI) [1-3].

We offer a review of current literature on incontinence after phalloplasty and present the key steps and novel decision-making process in a 30-year-old transgender male who developed significant stress-predominant UI after phalloplasty and vaginectomy.

METHODS

A common complaint after phalloplasty is post-void dribbling, due to the lack of bulbospongiosus muscle to aid in urine expulsion.[4] As such, many patients must commonly massage the perineum or “milk” the urethra to prevent dribbling.

Current literature on the development and management of UI after phalloplasty is scarce with only two prior studies identified [2,3]. Hoebeke *et al* and Zhang *et al* reported rates of UI ranging from 50-59%. However, unlike our patient, both studies reported only mild UI or post void dribbling, related to lack of neourethra musculature, which did not warrant further intervention.

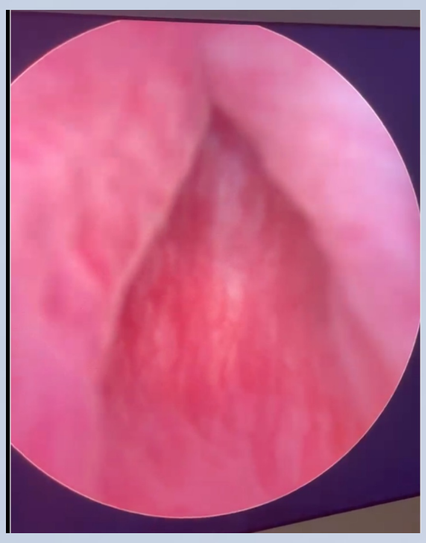

Figure 2: Cushions of polyacrylamide gel seen on urethroscopy

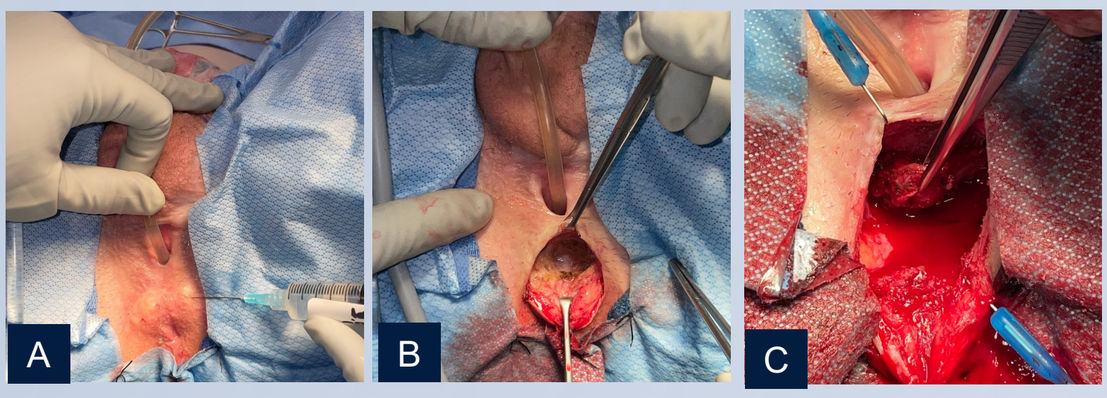

Figure 3: A. Dissection of the perineum for urethrolysis B. Urethrolysis in preparation for fascial sling C. Placement and tensioning of fascial sling

RESULTS

Informed consent was obtained prior to each procedure. A 30-year-old transgender male initially underwent a radial forearm free flap phalloplasty with concomitant urethral lengthening, vaginectomy, scrotoplasty, and perineoplasty. Post operatively, he developed a urethral stricture of the pars pendulans as well as a non-fistulous fluid collection in the vaginal cavity remnant. He subsequently underwent a drainage and excision of this remnant vaginal cavity lining with a concomitant first stage Johansen urethroplasty of the pars and perineal urethrostomy. Immediately post-procedure, he developed new, significant, stress-predominant mixed UI. Video urodynamics demonstrated large volume stress UI with an abdominal leak point pressure of 0. Cystogram showed an open bladder neck at rest [Figure 1]. His UI was suspected to be due to lack of anterior vaginal wall support with subsequent ‘dropping’ of the bladder neck and proximal urethra. Given patient desire to avoid any major surgery, urethral bulking with polyacrylamide gel was initially employed with very minor improvement [Figure 2]. 4-months later he underwent urethral mobilization and urethropexy. This provided only transient symptom relief. After careful consideration, 4-months after urethropexy, the patient underwent a pubovaginal sling via a perineal approach with autologous rectus fascia without complication [Figure 3].

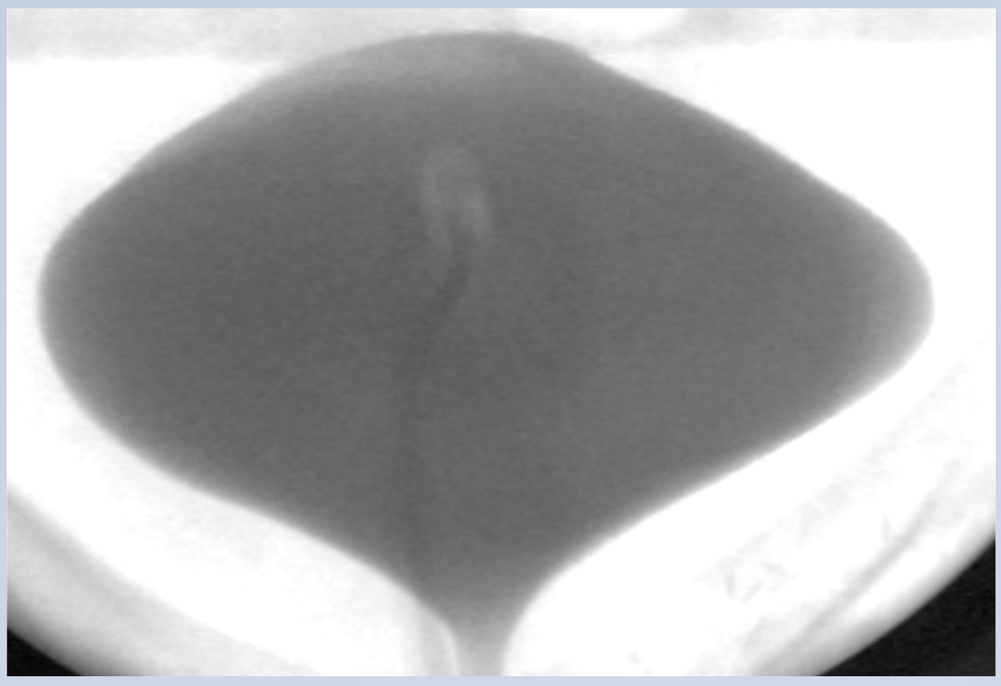

Figure 1: Video urodynamics revealing open bladder neck at rest

CONCLUSIONS

Our study reports on a comprehensive review and utilization of an autologous pubovaginal facia sling in the management of severe UI after phalloplasty. Despite the absence of a vaginal cavity, a pubovaginal sling can be performed in transgender males for stress UI. This case highlights the need for further research and discussion of this growing, complex, patient population with altered anatomy and significant disparities to care. At 1 year follow-up, the patient is doing well with notable improvement in his continence and has normal bladder emptying (and has subsequently undergone second stage urethroplasty).

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