Original Article

Monopolar Resection Of Anastomotic Urethral Polyps After Excision And Primary Anastomosis In Radial Free Forearm Flap Total Phallic Reconstruction Patients

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Abstract

Introduction Following phalloplasty, urological problems, such as urethral fistula and urethral stricture, are frequent. Even in the best hands, an "all cause" urological complication rate of 36% is observed. There are no reports in literature regarding urethral polyps after excision and primary anastomosis in cases of Total Phallic Reconstruction. **Methods** Retrospective study that identified patients who previously had Radial Free Forearm Flap Total Phallic Reconstruction (Phalloplasty) and underwent monopolar resection of anastomotic urethral polyps after excision & primary anastomosis urethroplasty between August 2020 and August 2022 in Department of Urology, Kasr Al-Ainy-Cairo University hospitals. **Results** A total of 3 patients were identified with anastomotic urethral polyp, median age was 25 years. Monopolar endoscopic resection of urethral polyps was done. All patients voided freely with good flow (Median Q-Max 34.4 ml/s, range 26.0-54.1 ml/s) after catheter removal and residual urine volume by ultrasound was insignificant. During follow up, one patient suffered from recurrent anastomotic urethral stricture while the other two cases continued to void freely with no urinary obstructive symptoms or significant residual urine. Median follow up was 12 months (range 6-24 months). **Discussion** Urethral complications after phalloplasty are frequent but treatment recommendations are lacking in the literature. Studies concerning urethroplasty after phalloplasty are scarce in the literature. While reviewing the literature, no case reports were found regarding urethral polyps after anastomotic urethroplasty in patients who had underwent Total Phallic Reconstruction. **Conclusion** Urethral polyp excision using monoploar energy is feasible and can be safe to use in patients after Total Phallic Reconstruction, but due to the lack of similar cases in literature no recommendation can be made regarding this approach and further research is still required.

Keywords: phalloplasty, Monopolar Resection, Urethral polyp excision

INTRODUCTION

Phalloplasty was first described in 1936 in war-injured patients by Nikolai Bogoraz, and then in 1948 by Gillies and Harrison as the first gender reassignment surgery.

The radial artery-based forearm tube-within-tube free flap (RFFF) phalloplasty was first used in 1984 by Chang and Hwang. Urethral reconstruction became a standard procedure and a primary goal to achieve as a result of increased awareness of patients' desire to urinate while standing. **(Chang et al., 1984).**

Following phalloplasty, urological problems, such as urethral fistula and urethral stricture, are frequent. All-cause complication rates following phalloplasty were too high as 80% in the 1980s **(Matti et al., 1988),** but they have recently decreased to a more tolerable incidence (35–41%). **(Doornaert et al., 2011; Frey et al., 2016).**
Even in the best hands, an "all cause" urological complication rate of 36% is observed, which is not very different from the 35-41% rate reported in the past **(Ascha et al., 2017),** despite the apparent decreases in rates over time.

This is because the recently-reported low stricture rate of 21% is added to that group's reported fistula rate of 15% and meatal stenosis rate of 14%. **(Doornaert et al., 2011; Frey et al., 2016).**

There are no reports in literature regarding urethral polyps after excision and primary anastomosis in cases of Total Phallic Reconstruction.

Methods

Patients This is a retrospective study that identified patients who previously had Radial Free Forearm Flap Total Phallic Reconstruction (Phalloplasty) and underwent monopolar resection of anastomotic urethral polyps after excision & primary anastomosis urethroplasty in Department of Urology, Kasr Al-Ainy-Cairo university hospitals.
Medical records were reviewed, and data was collected on patient demographics, techniques, complications and outcomes between August 2020 and August 2022.
All patients who underwent monopolar resection of urethral polyps at the junction between native and neo-phallic urethra after excision and primary anastomosis in radial free forearm flap phalloplasty patients were included.
Patients who did not undergo Radial free forearm flap phalloplasty or excision and primary anastomosis were excluded. Three patients were identified.

Statistics Data collected were not sufficient for univariate or multivariate statistical analysis, so all data are presented as descriptive.

Operative Technique All three patients had spinal anaesthesia, and put in lithotomy position. Rigid cysto-urethroscopy was performed to idenfity the urethral polyp, then monopolar endoscopic set (resectoscope, 24 F continuous flow sheath, 30-degree optical lens–Storz) was used to resect the polyp (Fig.1,2,3).
One patient also suffered from a urethral stone (1 cm) that was trapped in dilated native urethra for which he underwent cystolitholapaxy using Maurmyers stone punch. (Fig. 4,5)
Urethral catheter was left in place for 1 month, afterwards uroflowmetry and ultrasound for residual urine volume were performed.
The patients were instructed to follow up every 3 months in outpatient clinic.

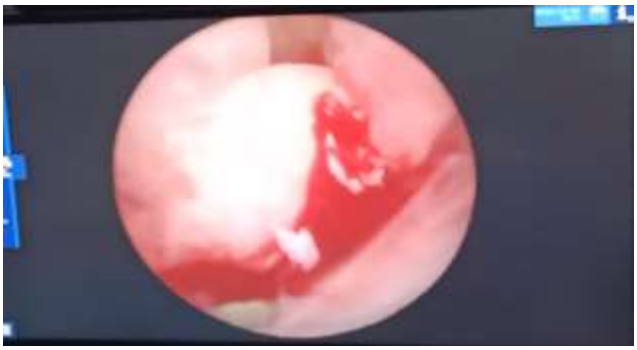

Figure (1) Urethral Polyp at the junction between native & neo-phallic urethra

Figure (2) Urethral Polyp Excision using monopolar energy

Figure (3) Monopolar Endoscopic Set

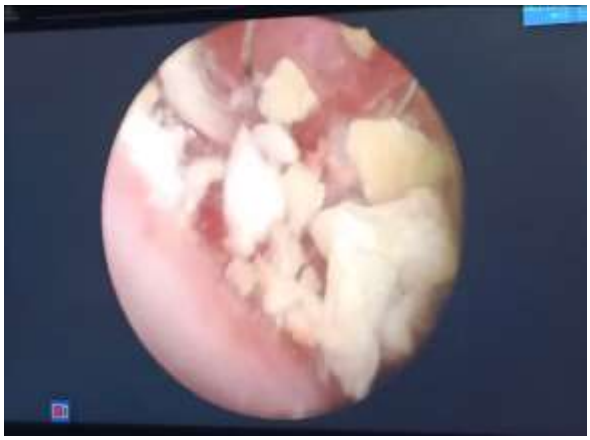

Figure (4) Fragmented urethral stone after cytsolitholapaxy

Figure (5) Maurmyers stone punch

Results

A total of 3 patients were identified, median age was 25 years (range 24-33 years). All patients suffered from micropenis and underwent radial free forearm flap phalloplasty.
The patients suffered from anastomotic urethral strictures after phalloplasty for which they underwent excision and primary anastomosis urethroplasty.
Details of previous surgical history for all patients is mentioned in Table (1).
All patients prior to monopolar resection of urethral polyps were suffering from urinary obstructive symptoms in the form of weak flow, intermittency and sense of incomplete evacuation.

Table (1)

Patient Number	Age	Indication of Phalloplasty	Type of Phalloplasty	Number of Previous Urethral Intervensions	Types of Previous Urethral Interventions
1	24	Micropenis	Radial Free Forearm Flap phalloplasty	4	Urethro-cutaneous fistula repair, Visual Internal Urethrotomy & Excision & 1ry anastomosis (twice).
2	33	Micropenis	Radial Free Forearm Flap phalloplasty	3	Visual Internal Urethrotomy, Excision & 1ry anastomosis & Meatoplasty.
3	25	Micropenis	Radial Free Forearm Flap phalloplasty	3	Thierch - Duplay Urethroplasty, Meatoplasty & Excision and 1ry Anastomosis.
Median	25	-	-	3	-

Cystourethroscopy was done for all patients which revealed anastomotic urethral polyp (between native and neophallic urethra). Then, afterwards monopolar endoscopic resection of urethral polyps was done and urethral catheter was kept in place for 1 month.
After 1 month, urinary catheter was removed and a trial of free voiding was done.
All patients voided freely with good flow (Median Q-Max 34.4 ml/s, range 26.0-54.1 ml/s) after catheter removal and residual urine volume by ultrasound was insignificant (Fig.6,7,8,9).

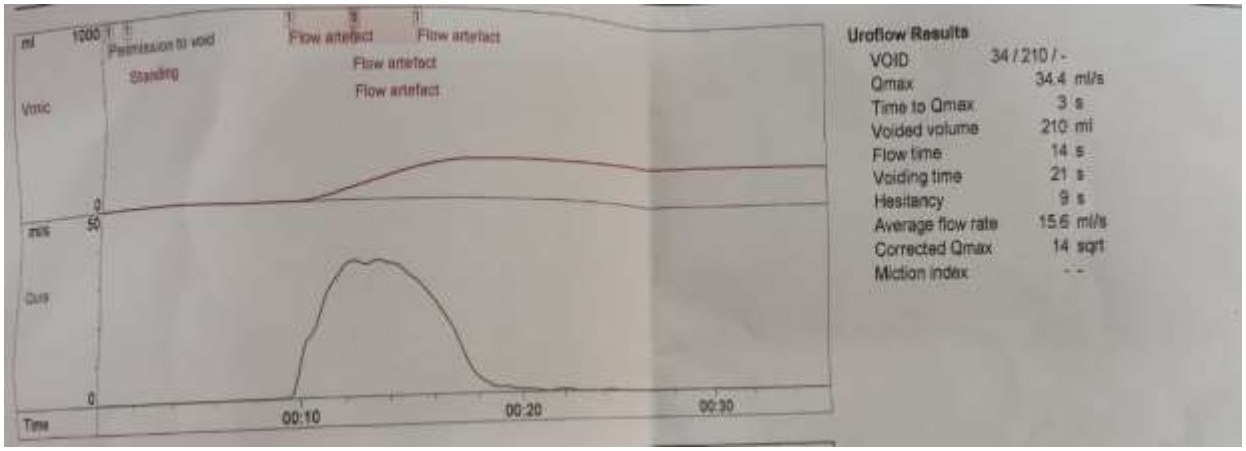

Figure (6) Patient 1 Uroflowmetry after urinary catheter removal

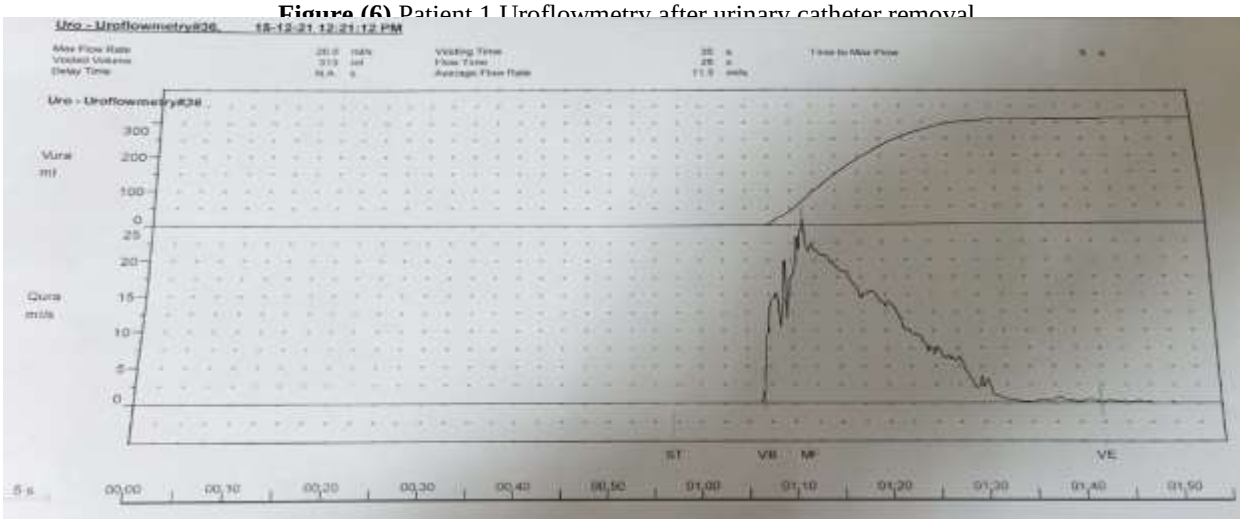

Figure (7) Patient 2 Uroflowmetry after urinary catheter removal

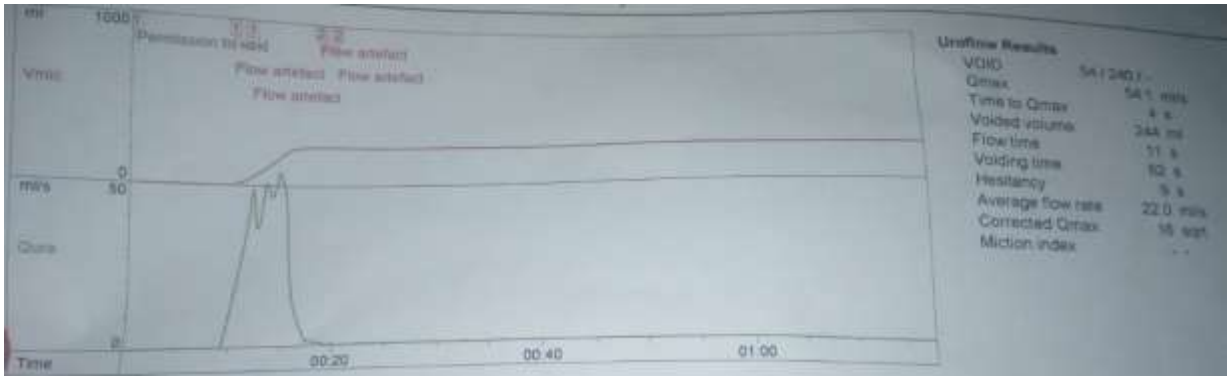

Figure (8) Patient 3Uroflowmetry after urinary catheter removal

Figure (9) Patient 3 Voiding Freely after catheter removal

Follow up was done every 3 months in outpatient clinic by reviewing symptoms of urinary obstruction and performing ultrasound for residual urine volume .
Median follow up period was 12 months (range 6-24 months). Two patients continue to void freely with no urinary obstructive symptoms or significant residual urine.
One patient suffered from acute urinary retention after 6 months, cystourethroscopy was done. It revealed recurrent anastomotic stricture for which he underwent excision and primary anastomosis again.
Details regarding follow up of all cases are summarized in Table (2)

Table (2)

Patient Number	Age	Site of Urethral Polyp	Type of Energy used in Resection	Q-Max after catheter removal	Residual urine by US	Follow Up & Outcomes	Follow Up Period in months
1	24	Anastomotic (between native & neophallic urethra)	Monopolar Resection	34.4 ml/s	Insignificant	Urinary Retention after 6 months, recurrent anastomotic stricture	6 months
2	33	Anastomotic (between native & neophallic urethra)	Monopolar Resection	26.0 ml/s	Insignificant	No urinary obstructive symptoms or significant residual urine through whole follow up period	24 months
3	25	Anastomotic (between native & neophallic urethra)	Monopolar Resection	54.1 ml/s	Insignificant	No urinary obstructive symptoms or significant residual urine through whole follow up period	12 months
Median	25	-	-	34.4 ml/s	-	2 patients continue to void freely while one patient suffered from recurrent anatomotic urethral stricture (66.67%)	12 months

Discussion

This is a retrospective study of urethral polyp excision using monopolar energy after recurrent anastomotic urethral stricture post Radial Free Forearm Flap Phalloplasty between August 2020 and August 2022 in Urology Department, Cairo University.

Nikolavsky et. al., published an article in 2018 concerned with urologic complications after phalloplasty and metoidioplasty and stated that the technique of reconstruction is based on the patient's anatomy and the condition of the tissues.

The article also stated that due to the high propensity for recurrence of strictures and urinary fistulae, lifelong urologic follow-up is of paramount importance.

Urethral complications after phalloplasty are frequent but treatment recommendations are lacking in the literature. Urethroplasty after phalloplasty is known to be notoriously difficult with low rates of success. **(Nikolavsky et al., 2018)**

Santucci et. al., published an article in 2017 concerning urethral complications after phalloplasty and concluded that urethroplasty is required in 94-96% of patients with urethral strictures.

The article also concluded that urethroplasty is technically challenging and fails in up to 50% of cases. Repeated surgery or salvage urethral exteriorization procedures, which can leave the patient with lifelong perineal urethrostomy, are often required.

Studies concerning urethroplasty after phalloplasty are scarce in the literature. **(Santucci et al., 2018)**

While reviewing the literature, no case reports were found regarding urethral polyps after anastomotic urethroplasty in patients who had underwent Total Phallic Reconstruction and this makes us "to our knowledge" the first to report the monopolar resection of urethral polyps after phalloplasty.

Conclusion

Urethroplasty after phalloplasty is a complex surgery with a relatively high recurrence rate that requires multiple urethral procedures to achieve success. Treatment strategies are lacking in literature as there are only a few studies concerning management of urethral complications post phalloplasty.
Urethral polyp excision using monoploar energy is feasible and can be safe to use in patients after Total Phallic Reconstruction, but due to the lack of similar cases in literature no recommendation can be made regarding this approach and further research is still required.

Conflict of interests the authors declare that they have no conflict of interests.

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