Short Communication

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Dorsal Onlay BMG Female Urethroplasty: A Five Case Series

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Abstract

Female urethral stricture disease is less well-known entity. Around 10% of females with obstructive voiding symptoms have a true anatomical stricture urethra. Due to difficulty in a standard criterion to diagnose stricture urethra in females, patients come late to the urologist. Final diagnosis is done with urethroscopy with 6/7.1 Fr ureteroscope. Various techniques of urethroplasty in females have been described.These techniques are performed with grafts or flaps, either dorsally or ventrally. We here describe a case series of stricture urethra in females treated with dorsal onlay buccal mucosal graft (BMG) urethroplasty. Dorsal only BMG female urethroplasty is a safe, efficacious, and reliable treatment option for stricture urethra in females.

Keywords: Stricture urethra female, Urethral dilatation, BMG for female stricture urethra, Dorsal onlay urethroplasty.

INTRODUCTION

Female urethral stricture disease is less well-known entity. Around 10% of females with obstructive voiding symptoms have a true anatomical stricture urethra.[1-3] Diagnosing stricture urethra in females is a challenging task. In males, it is very easy to diagnose stricture urethra by doing a retrograde urethrogram (RGU). But we cannot do RGU in females because of the short urethral length. Therefore, micturating cystourethrogram (MCU) is done to diagnose it. In general practice, clinicians do not do MCU to diagnose stricture urethra in females. They, rather, prefer to do regular urethral dilatation without diagnosing the stricture. When patient comes to the urologist with long standing obstructive lower urinary symptoms (LUTS), MCU and urodynamic study (UDS) aredone and stricture is diagnosed. With such good incidence rate, female urethroplasty is still a rarely performed procedure

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because of the overuse of the urethral dilatation, difficult diagnosis of the stricture urethra and lack of awareness among surgeons and fear of the risks associated with the surgery among the urologists. Only few studies have been published on female urethral reconstruction in the literature. We hereby present our case series and efficacy of dorsal onlay buccal mucosa graft female urethroplasty in treating stricture urethra in females who failed on urethral dilatation.

Five case reports:

All females (Table 1) presented to our out-patient department with history of repeated urethral dilatation for obstructive LUTS for last 2-3 years. Their frequency of dilatation increased recently for last 3 months. MCU was done after outpatient department consultation which suggested mid and/or distal urethral stricture (Fig. 1).

Table 1: Showing patient and disease demographics

Number	Age	Location of stricture (urethra)	Uroflometry (ml/sec)	
			Preoperative	Post-operative
1	56	Distal	4.8	28
2	37	Mid and distal	4.2	30
3	45	Mid	5.6	25
4	38	Mid and distal	3.4	27.5
5	58	Distal	3.9	29.5

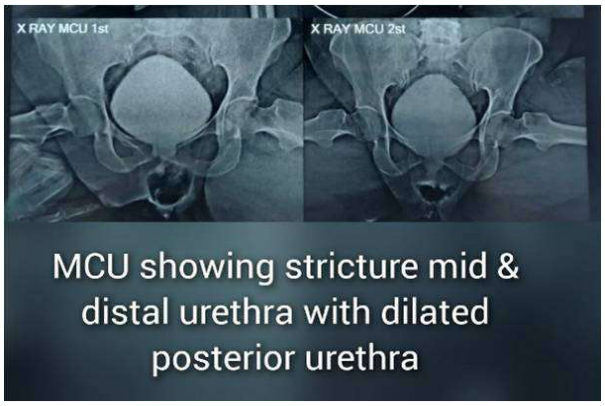

Fig . 1: Pre-op MCU

Fig. 2: Post surgery follow up MCU at 3 months

Uroflometry also suggested a poor flow of 4.2 to 5.6 ml/sec with a voided volume of 285 to 356 ml. Routine blood investigations were normal except the urine culture which showed growth of E. coli more than one lakh. Antibiotics were started according to the culture. Patients were advised reconstructive surgery and were explained about the pros and cons of the procedure. All patients underwent dorsal onlay graft urethroplasty using the buccal mucosal graft (BMG) (Fig. 3-7). The Foley catheter was removed after 21 days and all patients voided well with good satisfaction and without any residual urine. Follow up MCU (Fig. 2) and uroflometry after 3 months suggested a non-obstructive voiding with a good flow of 25 to 30 ml/sec till the last follow up at 12 months. All patients maintained a good urinary flow and there were no symptoms of any urinary obstruction.

Fig 3

Fig. 4

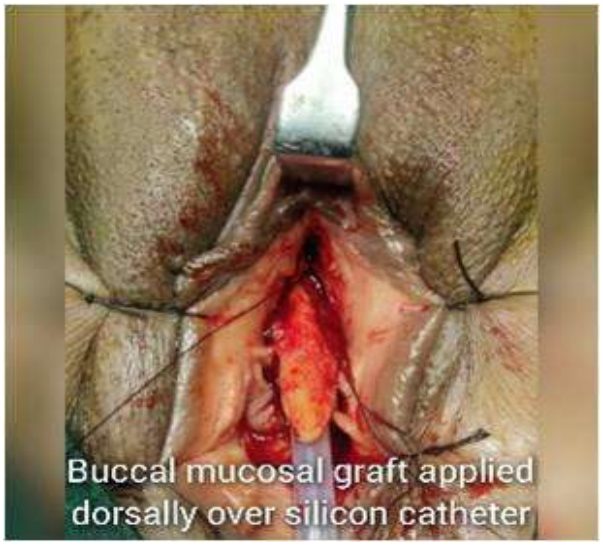

Fig. 5

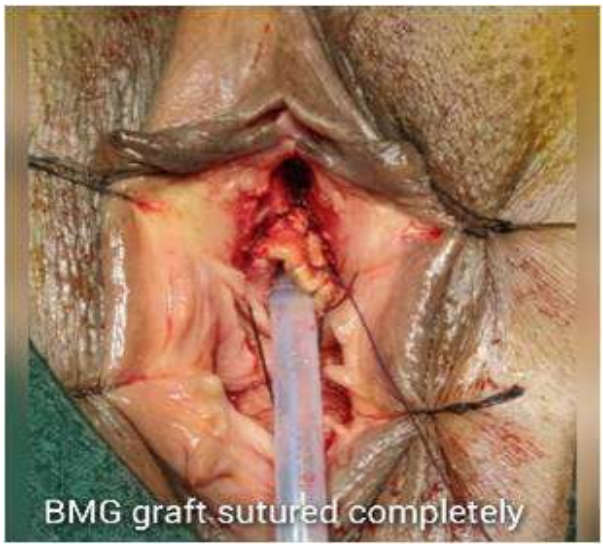

Fig. 6

Fig. 7

DISCUSSION

Stricture urethra in females is poorly understood and poorly diagnosed entity by the surgeons. The prevalence of obstruction (functional or anatomical) in women is between 2.7% and 23%.[4] Around 6.8% of this is attributed to anatomical stricture urethra. The diagnosis of stricture urethra in females is difficult and it is based upon a combination of obstructive LUTS symptoms, the stenosed/narrow appearance of the meatus, difficulty in passing a catheter, uroflowmetry, MCU. The diagnosis is based on the endoscopic appearance of the urethra using a small size, usually 6/7.1 Fr ureteroscope.

Stricture urethra in females is predominantly located in the mid or distal part of the urethra. The proximal urethra and bladder neck are affected in very few cases.[5] In our series, mid and/or distal urethra were involved.

Different techniques of urethroplasty in females have been described.[6] These techniques are performed with grafts or flaps, either dorsally or ventrally.

In dorsal urethroplasty procedures, the dissection is challenging due to risk of bleeding and damage to clitoral bodies. But there is better graft fixation and the stream is forward.[7] The ventral urethroplasty procedures are technically easier, but they are higher chances of urethrovaginal fistula formation and scarring.[7] We did dorsal onlay buccal

mucosal graft urethroplasty as the buccal mucosa is a robust and the ideal substitution material for urethroplasty.

Overall, the results of BMG are very good with success of around 90%.[8] We had 100% success in our case series.

LIMITATIONS

As this was a case series, further studies with a good cohort are needed.

CONCLUSION

Dorsal only BMG female urethroplasty is a safe, efficacious, and reliable treatment option for stricture urethra in females. The technique easy to learn and has a low complication rate.

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