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VAGINAL GRAFT SUBSTITUTION URETHROPLASTY FOR FEMALE URETHRAL STRICTURES: A GOOD ALTERNATIVE TO LINGUAL/BUCCAL MUCOSAL GRAFT

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ABSTRACT Post-menopausal sub meatal stenosis used to be common in elderly ladies, but urethral strictures were not so common. With more frequent urethral manipulations and indwelling catheterization incidence of stricture has increased. Lingual or buccal mucosal substitution urethroplasty has become standard treatment option for female urethral stricture with good long-term result. Acceptance of this procedure in female is guarded due to donor site morbidity.
We used vaginal graft for substitution in 11 patients after thorough evaluation with follow-up ranging from 3 months to 2 years with satisfactory outcome and no donor site morbidity.

KEYWORDS : Female Urethral Stricture, Substitution Urethroplasty, Vaginal Mucosal Graft

INTRODUCTION:

Post-menopausal sub meatal stenosis used to be common in elderly ladies, but urethral strictures were not so common. With more frequent urethral manipulations and indwelling catheterization incidence of stricture has increased. Soft stricture was salvageable with frequent urethral dilatation. Severe strictures requiring frequent dilatation has gross impact on quality of life. Male strictures are more common and various reconstructive techniques evolved to manage their strictures using local flaps available from surrounding skin. Its result had limitation because of incidence of recurrence but such techniques were not reproducible in female stricture till buccal and lingual substitution urethroplasty became gold standard for male urethral stricture. corresponding author used lingual graft in first 15cases of female urethral stricture with promising outcome.[1] In spite of good outcome, buccal or lingual graft were not a preferable choice in female either because of slight facial deformity or mild slurring of speech. We used vaginal graft in 11 patients operated between Jan 2017 to Oct 2018 with satisfactory outcome.

MATERIAL AND METHOD:

Eleven female patients age ranging from 31 to 50 yrs. had obstructed flow requiring frequent dilatation. 3 patients had difficult and painful dilatation and came to us in stage of dribbling of urine with significant post void. These patients were evaluated by uroflowmetry, ultrasound with post void, urine culture apart from routine hemogram, biochemistry, viral studies. All patient underwent MCU using infant feeding tube to fill bladder. One patient had recent dilatation and she was advised to wait till urinary stream was reduced. All patient revealed distal narrow segment of urethra with length varying from 8mm to 16mm with dilated proximal urethra. (fig1)

All patients were operated under regional anesthesia. Urethra was dissected dorsally by a half circle incision as described in our first publication. Infant feeding tube was in place. Urethra was divided carefully dorsally after putting stay sutures on either side and division was done till dilated urethra was reached (Fig 2). Length of required graft was assessed.

Using sims speculum lateral wall of vaginal wall was exposed and was infiltrated with 1%xylocain with adrenaline. Graft was harvested taking precaution that length was more than required graft length at least by 1 to 1.5cm (fig 3). vaginal defect was primarily closed. DE fattening of graft was done. Eighteen French silicon catheter was introduced into bladder. Augmentation of urethra was started by suturing graft in urethral defect with mucosal side towards lumen of urethra with interrupted 4/0 Monocryl (fig 4) Excess graft was sacrificed. Wound was closed with suturing of vaginal wall with margins of graft making neomeatus. Catheter was maintained for 3 weeks and then voiding trial was given.

RSULTS:

All patients had uneventful recovery. Voiding trial was given after 3 weeks. All patients voided with good stream with average Qmax 22ml/sec. (Fig 5&6). Follow-up is ranging from one month to 8month. All patients are voiding well without any need of dilatation.

DISCUSSION:

Female urethral strictures are not now a rare disease. Young females with history of catheterization or instrumentation and occasionally infection often present to us with stricture disease. Some time strictures are so narrow that they require frequent painful dilation affecting quality of life. These ladies demand for an alternative treatment with good quality of life. We got interested in female urethral reconstruction after having a good result using LMG graft in male urethral stricture [5,6] and published result of first 15 dorsal onlay urethroplasty using LMG graft [1]. Since then we were using lingual mucosa routinely to reconstruct urethra. Overall long-term results of dorsal onlay graft urethroplasty were satisfactory but taking graft from tongue or buccal mucosa was not a preferable choice in female because of added morbidity of marginal facial deformity or slurring of speech. Unlike male female have vaginal mucosa which also has tissue strength as good as lingual or buccal mucosa. Harvesting is easy and there is no added morbidity. Many authors have used vaginal mucosa with satisfactory out come (2,3,4,). We also changed donor site from lingual mucosa to vaginal mucosa. None of our patients had any donor site morbidity and over all outcome was as good as lingual mucosa graft. All patients voided with good stream with mean Qmax 22ml/sec. We have follow-up ranging from three months to 2 years. None of the patient required dilatation and did not had any episode of infection. Singh and Kapoor[2] had follow-up of 24 months with satisfactory outcome. Many other authors also had similar experience.

Though various other techniques using local vaginal flap or

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labial flap has been published with ventral onlay but dorsal on lay urethroplasty is reproducible simple technique with excellent out come. Substitution urethroplasty in female is now well-established technique. Vaginal mucosa has been added to armamentarium of donor site along with buccal or lingual mucosa. Out come of all seems to be similar though we will have to wait till long term result are assessed. Easy harvesting, minimum donor site morbidity and equally good result may make vaginal mucosa as first choice for substitution urethroplasty in female urethral stricture.

Figures:

Fig 1- MCU showing stricture with proximal dilated urethra

Fig 2- dorsally opened stricture segment till normal proximal urethra

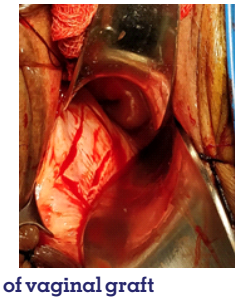

Fig 3- Harvesting of vaginal graft

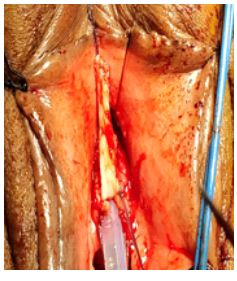

Fig 4- suturing of vaginal mucosal graft

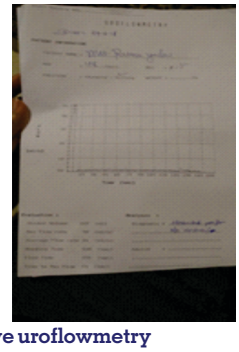

Fig-5 pre operative uroflowmetry

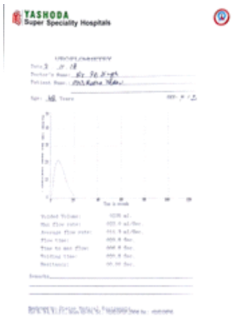

Fig6- post operative uroflowmetry

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