

Proximal Urethrovaginal Fistula- A Tale of Chronic Neglect and Missed Diagnosis

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Abstract

Proximal urethrovaginal fistula is an uncommon complication of obstructed labor. Due to its location near bladder neck, it may present as continuous urinary incontinence with or without Stress urinary incontinence. Authors present a case of 42 years woman who had obstructed labor 24 years back. Authors missed the diagnosis on Pelvic examination and cystourethroscopy initially. Later on ,with the help of CT cystography , they were able to localize one small urethrovaginal fistula in proximal urethral region. Transvaginal tension free, non-overlapping, layered repair was done with Martius flap interposition.

Localisation of small Proximal urethrovaginal fistula is a diagnostic challenge. Due to vaginal rugosity, diagnosis can be missed on pelvic examination and cystourethroscopy. CT cystography gives a three-dimensional roadmap for repair. Primary closure of Small fistula is done with or without Martius flap interposition. For concomitant SUI, both options of simultaneous versus deferred urethral sling surgery are considered.

Keywords: Urethrovaginal Fistula; Transvaginal Repair; Martius Flap; CT Cystography; Stress Urinary Incontinence

Introduction

Proximal urethrovaginal fistula (UVF) accounts for 17% of all obstetric fistulae and in some non-industrialized countries, it may be seen in 4 women per 1000 vaginal deliveries [1]. During obstructed labor, maternal fetal head disproportion leads to compression of bladder neck and urethra against pubic bones and causes extensive necrosis leading to fistula formation. This condition debilitates the woman and adversely affects her quality of life with devastating incontinence and voiding problems.

Case Description

A 42 years woman, presented with chief complaints of continuous urinary leakage for 24 years. She belonged to a remote mountain region, had an early marriage and a teenage pregnancy. This pregnancy had ended in obstructed labor, still birth and urinary incontinence. Baseline blood and urine investigations were normal. Pelvic examination revealed normal urethral meatus; good capacity rugose vagina and no scarring, discharge, cystocele or rectocele. Bonnie's test for Stress Urinary Incontinence (SUI) was positive. Cystourethroscopy was done twice; it revealed normal urethra and normal capacity bladder with normal ureteric openings on both sides. With provisional diagnosis of SUI in mind, CT urography along with CT cystography was sought to rule out concomitant ureterovaginal or vesicovaginal fistula. Both kidneys, ureters and urinary bladder were delineated normally on Urography, however CT Cystography revealed a small (< 1 cm) proximal UVF near the bladder neck through which contrast extravasated into the vagina (Figure 1). This meant that patient had both proximal UVF and SUI. Authors decided to tackle twin problems one by one. UVF was to be repaired first through transvaginal approach. Before starting the repair, Cystourethroscopy was attempted for 3rd time and this time small (< 1 cm) fistula opening in the proximal urethra was identified near bladder neck. This opening was cannulated with 10 fr foley's catheter over guidewire to aid in tissue dissection. 10 ml Saline was infiltrated around fistula margin for hydrodissection. Circumferential incision was given (Figure 2). Flaps were raised all around for 1.5 - 2.0 cms. Fistula margins were not excised in order to avoid enlarging the defect. Closure was done in two tension free,

non-overlapping layers with vicryl 4-0 interrupted sutures. Martius flap from right labium was interposed between two layers. Vaginal pack was kept for 24 hours and Urinary catheter for 21 days. She received anticholinergics during this period.

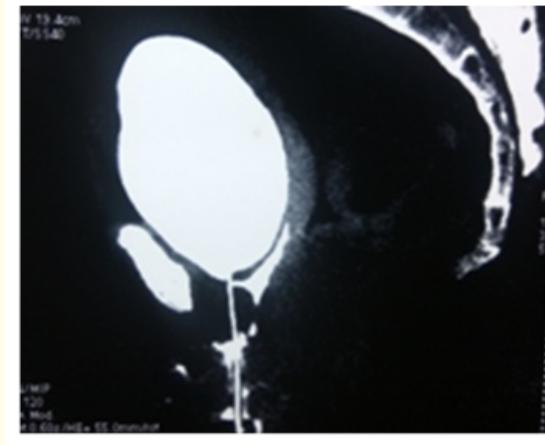


Figure 1: CT cystography showing proximal urethrovaginal fistula near the bladder neck. Contrast has outlined the vagina.



Figure 2: Operative photograph showing fistula tract cannulated with 10 fr Foleys catheter. Circumferential incision has been given and stay sutures have been taken for anterior vaginal wall flap mobilization. 16 fr Foleys per urethral catheter is also seen in situ.

After catheter removal, patient was relieved of continuous incontinence. However, she had some element of SUI as she leaked on straining. She was taught pelvic floor muscle exercises and was asked to avoid vaginal intercourse for 8 weeks. She has not reported yet for follow-up due to nationwide lockdown.

Discussion

Authors missed the diagnosis of small proximal UVF on pelvic examination and cystourethroscopy due to rugosity of vagina. CT cystography delineated the fistula tract well so Voiding cystourethrography was not done. UVF was repaired in two tension free, non-overlapping layers with interposition of Martius flap. Simultaneous repair for concomitant SUI was not considered.

UVF is a rare dreadful condition which mostly occurs as a result of obstructed labor [2]. It may involve urethral sphincter if located close to the bladder neck. UVF also results from prior surgeries such as anterior colporrhaphy, urethral diverticulectomy, paraurethral cyst removal, anti-incontinence surgery. Other causes of UVFs include urethral trauma, pelvic surgery, lower urinary tract instrumentation, prolonged catheterization and radiation.

Proximal UVF present with continuous incontinence, with or without concomitant SUI. It is diagnosed on pelvic examination and cystourethroscopy while voiding cystourethrography delineates the urethral fistula tract [3]. CT urography gives a three dimensional roadmap for surgery [4].

The surgical repair of proximal UVF is challenging due to lack of local viable tissue for a multilayered closure and extensive tissue loss. Depending upon the size of fistula and scarring of surrounding vaginal tissue, various surgical options i.e. Tension free primary closure [5], advancement vaginal flap [5], vaginal wall tube flap [5], labia minora pedicle flap [5] and anterior bladder wall flap [5] have been described in the literature. It is a matter of academic debate to repair concomitant SUI. While few authors advocate concomitant repair with autologous pubovaginal sling [6], others advise against it as only 50% patients would require SUI repair on follow up. To improve the success of repair, several authors advise using Martius or rectus abdominal flaps [7,8]. The success rate of repair ranges from 67 - 100% [5].

Conclusion

While evaluating continuous incontinence in a woman with history of obstructed labor, small fistula in proximal urethra may be missed on cystoscopy. CT cystography delineates the fistula tract well and gives a three-dimensional view for repair.

Conflict of Interest

None.

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