Case study

Urethroplasty for Female Urethral Stricture During the COVID-19 Pandemic: A Challenging Clinical Experience

Abstract

Amidst the COVID-19 pandemic, managing female urethral strictures posed distinct challenges. Scar tissue development within the urethral sub-epithelial tissue led to constriction, causing lower urinary tract symptoms. Traditionally, urethral dilation was employed, but high recurrence rates prompted a shift towards formal urethroplasty. We observed 36 patients during this pandemic, gathering data on stricture management. Those with Q max >10 ml/sec underwent conservative measures; Q max <10 ml/sec cases received urethroplasty with vaginal mucosal grafts. The pandemic's impact on healthcare necessitated cautious surgical planning, while strict protocols ensured patient and staff safety. Prompt intervention remains vital for improved outcomes in female urethral stricture cases.

Keywords:Urethral Stricture, COVID-19, Urethroplasty

Comment [u1]: Please write as background, aim of study not clear ,methods not present ,results, conclusions

Comment [u2]: Keywords not less than 5

1. Introduction:

Urethral stricture is characterized by the development of scar tissue in the sub-epithelial tissue of the urethra, leading to constriction of the urethral lumen. This condition can cause obstruction and result in lower urinary tract symptoms. Urethral stricture can arise as a consequence of various procedures, including catheterization, urinary tract endoscopy, urethral surgery, and radiation. Historically, female urethral stricture has been managed with urethral dilation, but this approach has shown high recurrence rates. Recent evidence suggests that formal urethroplasty should be the primary management option to prevent recurrence[1].

Comment [u3]: Please, declare the aims of this project at the end of introduction

The COVID-19 pandemic, caused by the coronavirus SARS-CoV-2, has had an unprecedented impact on global health, social welfare, and the economy. During the early stages of the pandemic, fear and panic among patients were common. Healthcare systems were overwhelmed, and elective surgeries were postponed for approximately six months, with only emergency surgeries performed under strict precautions. COVID-19 forced healthcare professionals to adopt enhanced personal protective equipment (PPE) to minimize transmission risks.

2. Clinical Experience:

In this clinical experience, we present an observation involving 36 female patients with urethral stricture, focusing on their management during the COVID-19 pandemic. Patient data were collected prospectively, including the duration of presenting complaints, previous procedures, hospital stay, number of visits, and duration of Foley catheterization. All patients underwent thorough evaluation, including medical history, socioeconomic status, and literacy assessment. Diagnostic tests, such as ultrasonography kidney–ureter–bladder (KUB), urine analysis, serum creatinine, and micturating cysto-urethrogram (MCU), were conducted.

Comment [u4]: Write methods in correct manner, how you selects your patients, name the health center that you collects them, their age, duration …ect

Patients with a maximum flow rate (Q max) of >10 ml/sec were managed conservatively with calibration and dilatation, while those with Q max <10 ml/sec were planned for urethroplasty using a vaginal mucosal graft. Among the 11 patients scheduled for surgery, 5 patients declined due to COVID-19 concerns. Of the remaining 6 patients who underwent COVID-19 testing, 3 were positive, and only the COVID-negative patients proceeded with urethroplasty.

3. Surgical Procedure:

All 3 patients underwent dorsal onlayurethroplasty, with the graft harvested from the anterior vaginal wall. Peri-operative antibiotic prophylaxis was administered as per the urine culture sensitivity report. A 16 French silicone catheter was inserted post-operatively, surrounded by a gauze piece soaked in betadine, and a vaginal pack was applied. Patients were discharged with instructions for wound and vaginal care. The catheter remained in place for four weeks, and uroflowmetry was performed at 2-month and 6-month intervals.

4. Discussion:

The COVID-19 pandemic brought significant changes in the approach to patient care and surgical practice. Initially, with OPDs closed, only emergency surgeries were performed with minimal staff and strict PPE usage. Patients were hesitant to visit hospitals due to social stigma and fear of infection. Elective surgeries were prioritized only after obtaining a COVID-negative status, leading some patients to opt for conservative management. Additionally, patients who were willing to undergo surgery were occasionally found to be COVID positive after testing[2, 3].

Considering the risks of transmission through aerosols, vaginal mucosal grafts were preferred over buccal mucosal grafts for urethroplasty. The use of vaginal grafts in female urethroplasty has proven advantageous due to ease of harvesting and its hairless elastic nature. The patients in our study underwent dorsal onlayurethroplasty, a procedure that offers better graft fixation and forward stream compared to ventral urethroplasty, which may result in higher rates of urethrovaginal fistula[4].

5. Conclusion:

The management of female urethral stricture during the COVID-19 pandemic presented unique challenges. The pandemic's impact on healthcare systems and patient attitudes led to delays in seeking treatment and choosing conservative management. Surgical procedures had to be carefully planned, and strict COVID-19 protocols were followed to ensure the safety of patients and healthcare staff. Female health is vital, and early intervention is crucial in achieving better outcomes and overall health for patients with urethral stricture.

Reference:

Comment [u5]: Results & discussion

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1. Mundy AR, Andrich DE. Urethral strictures. BJU Int. 2011 Jan;107(1):6-26. doi: 10.1111/j.1464-410X.2010.09800.x. PMID: 21176068.
2. Swannjo JP, Sanjaya IP, Budihardja BM, Dananjaya IP, Sukarata VA. Ventral Onlay Vaginal Graft Urethroplasty for Female Urethral Stricture Disease.
3. Navarro-Galmes MA, Hernandez-Hernandez D, Padilla-Fernandez B, Castro-Diaz DM. Female Urethroplasty: Anterior Vaginal Wall Flap (Blandy Flap) - Simpler Tends to Be Better. Urol Int. 2022;106(3):313-316. doi: 10.1159/000515994. Epub 2021 May 6. PMID: 33957637.
4. Kore RN, Martins FE. Dorsal onlayurethroplasty using buccal mucosal graft and vaginal wall graft for female urethral stricture - Outcome of two-institution study. Indian J Urol. 2022 Apr-Jun;38(2):140-145. doi: 10.4103/iju.iju_329_21. Epub 2022 Apr 1. PMID: 35400871; PMCID: PMC8992726.