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Innovative Management of Recurrent Urethral Stricture: A Multidisciplinary Approach

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Description

Recurrent urethral stricture poses a challenging scenario for urologists, requiring innovative solutions to improve patient outcomes. We present a comprehensive case report detailing the management of a 45-year-old male with recurrent urethral strictures. Despite multiple interventions, including urethrotomy and dilation, the patient experienced persistent strictures. This case emphasizes the significance of a multidisciplinary approach involving urologists, radiologists, and interventional radiologists.

Urethral strictures are a common urological condition, often presenting challenges in both diagnosis and management. Recurrent strictures, in particular, necessitate a thorough understanding of the underlying etiology and innovative treatment strategies. Our case report explores the complex management of a patient with recurrent urethral strictures, highlighting the importance of interdisciplinary collaboration in achieving successful outcomes.

Case presentation

A 45-year-old male presented with a history of recurrent urethral strictures. The patient had previously undergone multiple interventions, including urethrotomy and dilation, without sustained relief. He reported recurrent episodes of obstructive voiding symptoms, diminished urinary flow, and straining during urination. The patient's medical history was otherwise unremarkable, with no evidence of systemic diseases contributing to the recurrent strictures.

Investigations

Initial diagnostic workup included a detailed medical history, physical examination, and uroflowmetry. Urethroscopy revealed a tight and fibrotic stricture in the anterior urethra. Retrograde urethrography confirmed the presence of a recurrent urethral stricture measuring approximately 1.5 cm in length. In addition, the patient underwent urodynamic studies to assess bladder function and rule out any associated dysfunction.

Management

Given the recurrent nature of the strictures, a multidisciplinary team comprising urologists, radiologists, and interventional radiologists was assembled to devise an optimal management plan. Traditional approaches, such as urethrotomy and dilation, had proven ineffective in providing long-term relief.

The proposed approach involved a combination of endoscopic urethral dilation and antegrade urethrography-guided steroid injection. This innovative strategy aimed to address both the mechanical obstruction and the inflammatory component contributing to stricture recurrence.

Procedure

The patient underwent endoscopic urethral dilation, utilizing a balloon catheter, to mechanically dilate the strictured segment. Subsequently, antegrade urethrography was performed under fluoroscopic guidance to precisely visualize the stricture. A steroid solution was then injected directly into the fibrotic tissue, targeting the inflammatory component of the stricture pathophysiology.

Outcome

Following the combined intervention, the patient experienced a significant improvement in obstructive voiding symptoms. Subsequent uroflowmetry demonstrated a notable increase in urinary flow rate, indicating successful resolution of the stricture. The patient reported sustained relief from symptoms during the follow-up period, and repeat urethrography confirmed the absence of strictures.

Discussion

Recurrent urethral strictures often pose a therapeutic challenge due to the complex interplay of mechanical and inflammatory factors. This case highlights the efficacy of a multidisciplinary approach, bringing together urologists, radiologists, and interventional radiologists to address both aspects of stricture pathophysiology.

Endoscopic urethral dilation remains a mainstay in managing urethral strictures, providing mechanical relief by widening the narrowed segment. However, addressing the inflammatory component is equally crucial for preventing recurrence. Antegrade urethrography-guided steroid injection emerged as a valuable adjunct, targeting the inflammatory response and promoting sustained stricture resolution.

Conclusion

Innovative strategies are imperative in managing recurrent urethral strictures, and our case report underscores the significance of a multidisciplinary approach. Combining endoscopic urethral dilation with antegrade urethrography-guided steroid injection proved successful in achieving sustained symptomatic relief for our patient. This collaborative model serves as a valuable paradigm for urologists facing challenging cases of recurrent urethral strictures, emphasizing the need for continuous exploration of novel therapeutic modalities.

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