

Endoscopic and Reconstructive Strategies for Bladder Neck Narrowing After Surgery

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DESCRIPTION

Bladder neck contracture is a condition characterized by narrowing at the junction between the bladder and urethra, often occurring after surgical interventions involving the prostate or bladder. It leads to obstructive urinary symptoms such as weak stream, straining during voiding, incomplete bladder emptying, and in severe cases, urinary retention. The condition can significantly affect urinary function and quality of life, particularly in patients who have already undergone prior urological surgery.

The development of bladder neck contracture is commonly associated with healing responses following procedures such as prostate removal or endoscopic resection. Excessive scarring during the healing phase can lead to progressive narrowing of the bladder outlet. Risk factors include infection, prolonged catheterization, surgical technique, and individual healing tendencies. In some cases, repeated instrumentation may contribute to recurrence.

Diagnosis is typically established through a combination of patient symptoms, uroflowmetry, and endoscopic evaluation. Cystoscopy allows direct visualization of the narrowed bladder neck and assessment of the degree of obstruction. Imaging studies may be used in selected cases to evaluate associated upper urinary tract changes due to chronic obstruction.

Initial management often involves endoscopic intervention. Bladder neck dilation using sequential dilators can provide temporary relief in mild cases. However, recurrence is common, especially in more severe contractures. Endoscopic incision of the bladder neck using cold knife or laser energy is another widely used approach. This technique aims to release scar tissue and restore adequate urinary flow.

Laser incision techniques have gained preference in many centers due to improved precision and reduced bleeding. The energy source allows controlled cutting of fibrotic tissue with minimal damage to surrounding structures. In some cases, repeat procedures may be required if scar tissue reforms during healing.

Adjunctive therapies have been explored to reduce recurrence rates. Injection of anti-fibrotic agents into the surgical site has been investigated as a method to limit excessive scar formation.

Temporary stenting of the bladder neck may also be used to maintain patency during the healing phase, although results vary depending on patient factors.

In cases of refractory bladder neck contracture, open surgical reconstruction may be required. This involves excision of scar tissue and reconstruction of the bladder outlet. Such procedures are complex and typically reserved for patients who have failed multiple endoscopic treatments. Care must be taken to preserve urinary continence mechanisms during reconstruction.

Postoperative care is essential in preventing recurrence. Catheterization is often maintained for a period after intervention to allow healing of the bladder neck. Regular follow-up with flow studies and endoscopic evaluation helps detect early signs of re-narrowing.

Complications of treatment include urinary incontinence, infection, bleeding, and recurrence of obstruction. Incontinence may occur if the surgical intervention affects the sphincter mechanism, particularly in aggressive resections. Balancing adequate incision with preservation of continence is therefore a key surgical challenge.

Advances in endoscopic equipment have improved visualization and precision during treatment. High-definition imaging and refined laser systems allow better targeting of fibrotic tissue while minimizing collateral damage. These improvements have contributed to better short-term outcomes and reduced perioperative complications.

CONCLUSION

Bladder neck contracture is a challenging postoperative complication requiring a stepwise surgical approach. Endoscopic techniques remain the mainstay of treatment, while open reconstruction is reserved for resistant cases. Continued refinement of surgical methods and postoperative care strategies plays an important role in improving patient outcomes. Psychological impact should not be overlooked, as chronic urinary obstruction and repeated procedures can affect patient well-being. Supportive care and clear communication regarding treatment expectations are important aspects of management.

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