RECONSTRUCTIVE UROLOGY

Muscle- and nerve-sparing bulbar urethroplasty: a new technique

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Background: To describe a new surgical technique for the repair of bulbar urethral strictures to preserve the bulbospongiosum muscle and its perineal innervation. Objective: Surgical steps of muscle- and nerve-sparing bulbar urethroplasty are described. The outcome is provided regarding semen sequestration and postvoiding dribbling.
Design, Setting, and Participants: We performed the procedure in 12 patients (average age: 43.58 yr) with bulbar urethral strictures (average stricture length: 4.47 cm). Surgical Procedure: Six patients underwent urethroplasty using a ventral oral mucosal onlay graft, and six patients underwent urethroplasty using a dorsal oral mucosal onlay graft. In all patients, the surgical approach to the bulbar urethra was made avoiding dissection of the bulbospongiosum muscle from the corpus spongiosum and leaving the central tendon of the perineum intact.
Measurements: Clinical outcome was considered a failure when any postoperative instrumentation was needed. The primary outcome examined the technical feasibility of the muscle- and nerve-sparing bulbar urethroplasty. The secondary outcome examined the presence or absence of postoperative postvoid dribbling and semen sequestration using a nonvalidated questionnaire (Appendix).
Results and Limitations: In all patients, postoperative voiding cystourethrography was performed 3 wk after surgery and no urethral sacculation was evident. Urethrography were repeated after 6 mo and 12 mo. No postvoid dribbling or semen sequestration was demonstrated in all patients at 6 mo and 12 mo after surgery. No patient showed stricture recurrence. The average follow-up was 15.25 mo (range 12 mo to 26 mo, median 13.5 mo).
Conclusions: Bulbar urethroplasty preserving the bulbospongiosum muscle, the central tendon of the perineum, and the perineal nerves is a safe, feasible, minimally invasive alternative to traditional bulbar urethroplasty.

One-sided anterior urethroplasty: a new dorsal onlay graft technique

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Objective: To investigate the feasibility, tolerability, safety and efficacy of using a new surgical technique for the repair of anterior urethral strictures to preserve vascular supply to the urethra and its entire muscular and neurogenic support.
Patients and Methods: In all, 24 patients (mean age 46 years) underwent a new one-sided anterior dorsal oral mucosal graft urethroplasty while preserving the lateral vascular supply to the urethra, the central tendon of the perineum, the bulbospongiosum muscle and its perineal innervation. The cause of stricture was instrumentation in three cases (12%), unknown in five (21%), infection in four (17%), and lichen sclerosus in 12 (50%). The stricture site was bulbar in 12 cases (50%) and panurethral in 12 (50%). The mean stricture length was 4.2 cm in patients with bulbar strictures and 10 cm in patients with panurethral strictures. Of 24 patients, 20 patients (83%) had received previous treatments. Clinical outcome was considered a failure when any postoperative instrumentation was needed, including dilatation.
Results: The overall mean (range) follow-up was 22 (12-55) months. Of the 24 patients, 22 (92%) had a successful outcome and two (8%) were failures. One failure was treated using definitive perineal urethrostomy and another failure underwent successful internal urethrotomy.

Conclusions: The preservation of the one-sided vascular supply to the urethra and its entire muscular and neurogenic support should represent a slight but significant step toward perfecting the surgical technique of urethral reconstruction using a minimally invasive approach.

Editorial Comment

The authors describe modifications to the standard substitution anterior urethroplasty that help preserve the bulbospongiosum muscle and perineal nerve fibers. Previously, Yucel and Baskin showed that perineal nerves innervate the bulbospongiosus muscle and send fine branches that penetrate the corpus spongiosum, mainly in the bulbar area. Moreover, these authors demonstrated that branches of the dorsal nerve of the penis at the junction of the corpus cavernous and corpus spongiosum assemble into a network with the perineal nerves (1). Contraction of the bulbospongiosum and ischiocavernosal muscles help propel the ejaculate out of the urethra. The contraction of those is thought to help prevent urine pooling at the end of voiding. The perineal nerve endings provide sensation to the scrotum, perineum and ventral penis and frenulum. Given that the risk of weakness of ejaculation is reported to be up to 39% after substitution urethroplasty, and post void dribbling in up to 50%, the role of muscle preservation during urethroplasty has been the subject of a lot of interest.

Both series report success rates that are comparable to the published rates of about 90%. No post void dribbling or semen sequestrations were reported in up to 12 months of follow up in the first study, while the second study lacks data on erectile or ejaculatory dysfunction.

There are inherent limitations to both studies especially in the fact that they lack a control group comparison, and randomization was not performed. It would be of interest to evaluate whether the preservation of the one-sided vascular supply to the urethra and its entire muscular and nerve support or limiting the dissection to the midline would decrease morbidity from ejaculatory and erectile dysfunction in a setting of a randomized controlled trial. Still, both studies are major steps in the refinement of the technique of minimally invasive urethroplasty. It remains to be seen whether this anatomical preservation of the neurovascular supply and muscular support is going to translate into decreased morbidity.

Reference

1. Yucel S, Baskin LS: Neuroanatomy of the male urethra and perineum. BJU Int. 2003; 92: 624-30.

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UROLOGICAL ONCOLOGY

European consensus conference on diagnosis and treatment of germ cell cancer: a report of the second meeting of the European Germ Cell Cancer Consensus group (EGCCCG): part I

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Objectives: The first consensus report presented by the European Germ Cell Cancer Consensus Group (EGCCCG) in the year 2004 has found widespread approval by many colleagues throughout the world. In November 2006,