Repeat Excision and Primary Anastomotic Urethroplasty for Salvage of Recurrent Bulbar Urethral Stricture

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Abbreviations and Acronyms

EPA = excision and primary anastomosis

VCUG = voiding cystourethrogram

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Purpose: We compared the results of initial excision and primary anastomosis urethroplasty to the excision and primary anastomosis outcomes of other challenging reoperative clinical settings, including secondary cases (prior urethroplasty of any technique other than excision and primary anastomosis) and repeat cases (prior excision and primary anastomosis).

Materials and Methods: We reviewed our database of patients who underwent excision and primary anastomosis urethroplasty for bulbar urethral stricture at our tertiary referral center from 2007 to 2014. Patients without available data and those with a history of lichen sclerosus, radiation, pelvic fracture urethral injuries, distal strictures and/or hypospadias were excluded from analysis. Patient characteristics and outcomes were compared between those undergoing initial, secondary, and repeat excision and primary anastomosis urethroplasty for bulbar urethral stricture.

Results: Among 898 urethroplasties performed during the study period we identified 305 men who underwent excision and primary anastomosis urethroplasty of the bulbar urethra, including an initial procedure in 268 of 305 (88%) and reoperation in 37 (12%). Of patients with reoperation 18 of 37 (49%) underwent secondary excision and primary anastomosis following a different type of prior urethroplasty and 19 (51%) underwent repeat excision and primary anastomosis. Repeat excision and primary anastomosis in the bulbar urethra was successful in 18 of 19 patients (95%), which was comparable to the success rate of initial bulbar excision and primary anastomosis (251 of 268 or 94%) as well as secondary bulbar excision and primary anastomosis (17 of 18 or 94%, $p = 0.975$) with a similar mean stricture length. Mean followup for all patients was 41.5 months (range 6 to 90) and mean followup in each group was greater than 30 months.

Conclusions: Repeat excision and primary anastomosis urethroplasty has excellent results for short bulbar strictures, comparable to those achieved in the initial and secondary setting.

Key Words: urethra; urethral stricture; reoperation; anastomosis, surgical; outcome and process assessment (health care)

Urethral stricture disease in the male has an estimated prevalence of 229 to 627/100,000 men and imparts a significant cost on the health care system.[1] Urethroplasty has been shown to be the most effective intervention for definitive long-term management.[2] While urethroplasty procedure selection depends on stricture length, location and etiology, the

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high success rate of EPA urethroplasty makes it the procedure of choice for most short strictures of the bulbar urethra.[3–6]

The management of recurrent urethral strictures is often challenging since failure of urethroplasty has been shown to be an adverse prognosticator.[7,8] The role of EPA in the setting of recurrent stricture is poorly established. Reconstruction in these patients is often difficult due to altered anatomy, poor vascularity, dense fibrosis and limited availability of donor tissue.[9] Stricture excision with tension-free anastomosis has been recommended even in the reoperative setting.[9,10] We sought to evaluate the efficacy of repeat EPA urethroplasty and compare these results to outcomes of initial and secondary EPA procedures.

MATERIALS AND METHODS

Study Population

To create this retrospective analysis of EPA urethroplasty cases we reviewed our prospectively maintained, institutional review board approved database of all urethroplasties performed by the senior author at our tertiary referral center between January 2007 and December 2014 (fig. 1). Patients without complete data available and those with a history of lichen sclerosus, radiation, pelvic fracture urethral injuries, distal strictures and/or hypospadias were excluded from analysis. Patients without followup greater than 6 months were also excluded. Followup was defined as the time from surgery to the date of last database extraction (February 2014).

Among 898 total urethroplasty cases performed during the 8-year study period we identified 305 patients who underwent EPA urethroplasty of the bulbar urethra.

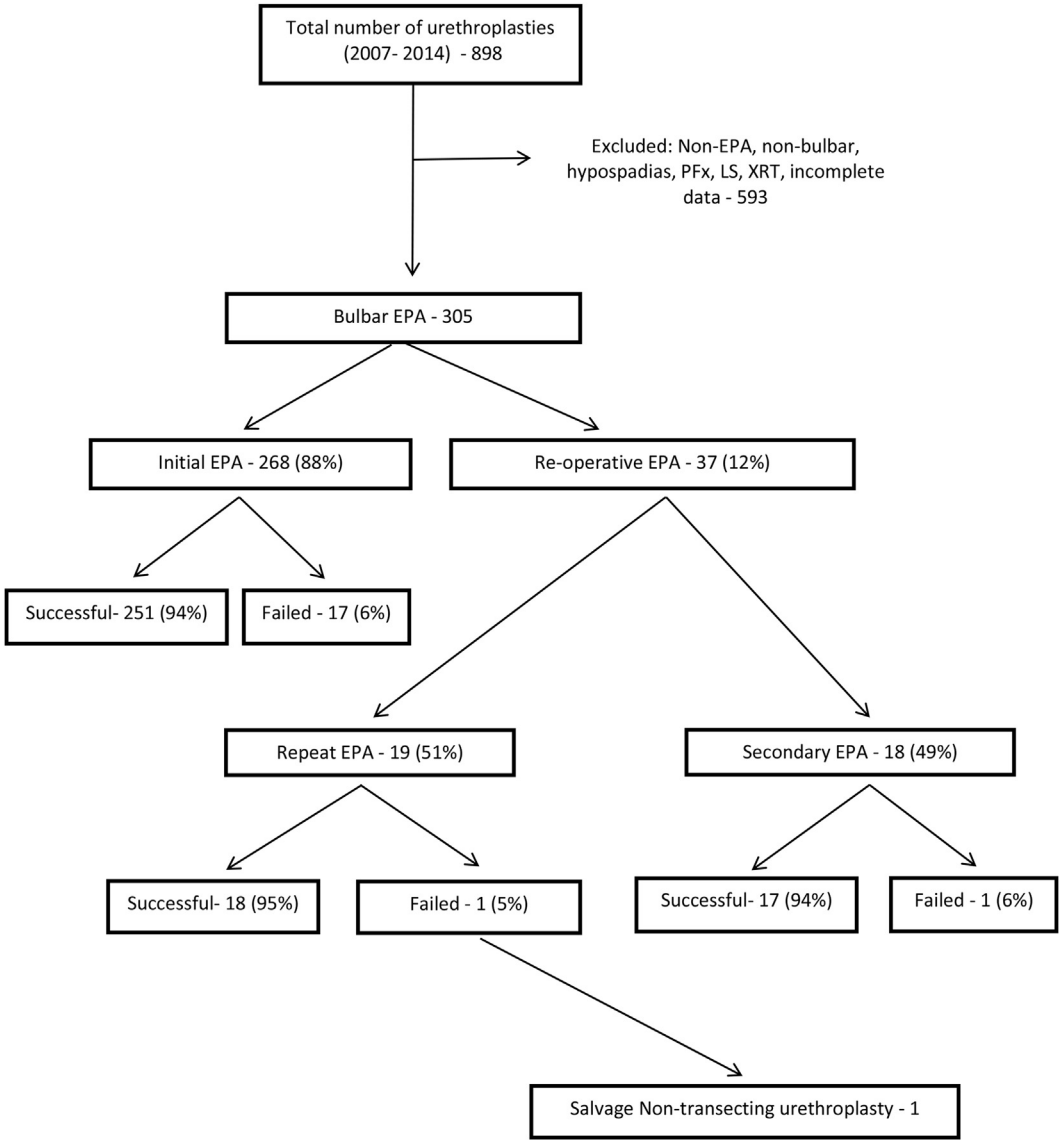

Figure 1. EPA urethroplasty results. *PFx*, pelvic fracture. *LS*, lichen sclerosus. *XRT*, radiation therapy.