Management of Panurethral Stricture

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KEYWORDS

• Urethra • Panurethral • Full-length • Stricture • One-stage • Complex

KEY POINTS

- Panurethral structure is a complex and challenging issue.
- Staged urethroplasty was preferred in past.
- Lichen sclerosus is a genital skin disease, and staged urethroplasty.
- Single-stage buccal graft procedures have an advantage over staged procedures and flaps.
- Multicenter published review concludes that panurethral structure treated in most high-volume centers with a single-stage dorsal onlay buccal graft augmentation urethroplasty has superior results over staged urethroplasty or flap procedures.

Video content accompanies this article at http://www.urologic.theclinics.com.

URETHROPLASTY FOR PANURETHRAL URETHRAL STRICTURE

Introduction

The surgical treatment of urethral strictures varies according to cause, location, and length of stricture. Treatment of strictures involving the bulbar urethra is relatively well defined. However, management of long-segment urethral stricture, or panurethral stricture disease, is challenging, and the literature on the subject is not abundant.

Panurethral stricture involves the full length of the urethra from meatus until the most proximal bulb. The incidence of panurethral strictures is increasing. Most panurethral strictures in the Indian subcontinent are due to lichen sclerosus. Iatrogenic causes are also on the increase. Iatrogenic causes include urethral catheterization, cystourethroscopy, transurethral resection, and previous urethral surgeries.

Review of literature suggests the use of staged Johanson's urethroplasty and the use of flaps for these complex patients. Because lichen sclerosus is a disease of genital skin, local skin flaps or staged urethroplasty is best avoided because the disease can recur in the tubularized urethra. The late 1990s saw the revolution of buccal mucosa urethroplasty. Subsequently panurethral strictures started being treated with augmentation using buccal grafts. The authors present the management algorithm for panurethral strictures (Fig. 1).

Evaluation of Patient

Symptomatic stricture disease usually presents with decreased flow associated with other lower urinary tract symptoms. Patients may have recurrent urinary tract infections. Usually strictures with lichen sclerosus have a long-standing history. Iatrogenic strictures tend to present early. Significant numbers of iatrogenic strictures are nearly obliterative in nature, and the patient could be referred with a suprapubic tube.

Many patients have a history of direct visual internal urethrotomy and dilatations. Uroflowmetry, ultrasonography, and cystourethroscopy are

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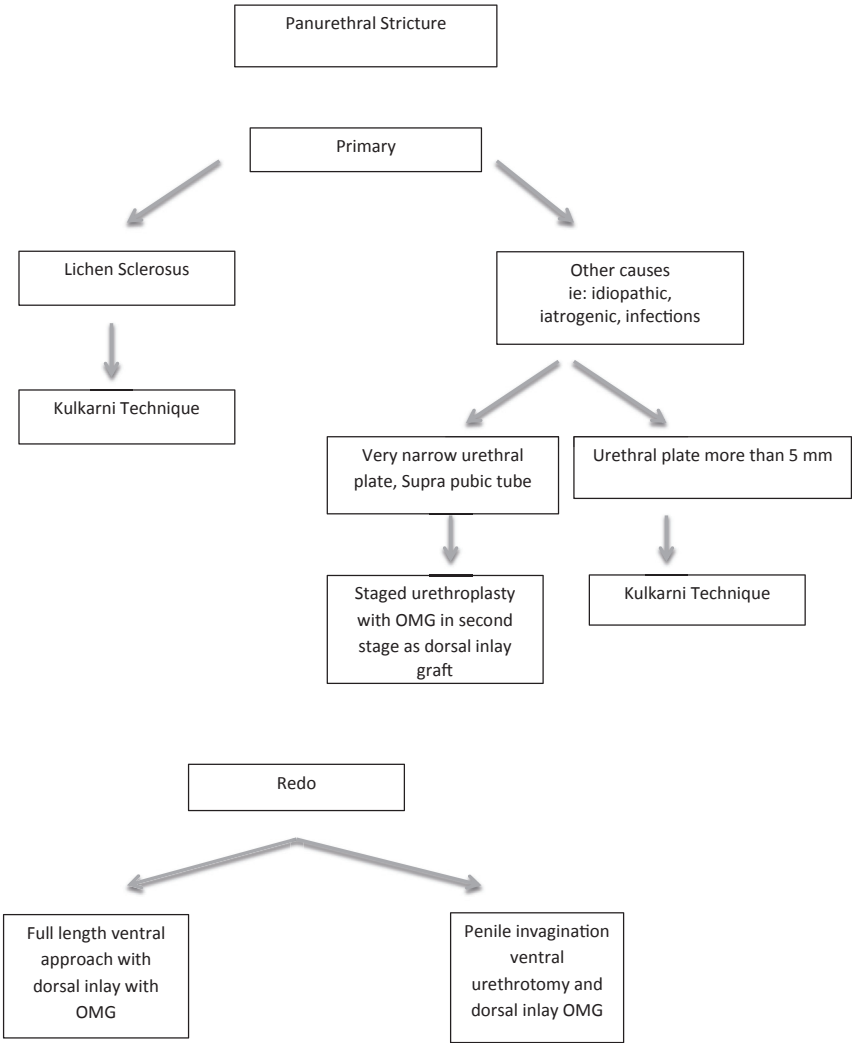

Fig. 1. Management algorithm for panurethral strictures.

important adjuncts in the diagnosis of panurethral stricture disease. Ultrasonography is done to evaluate upper tract. Retrograde urethrography (Fig. 2) and voiding cystourethrography determines the location, length, and severity of the stricture. It is important to note that the membranous urethra does not have spongiosum and is almost never involved in panurethral stricture. However, the bulbar urethra may be involved up to the bulbomembranous junction.

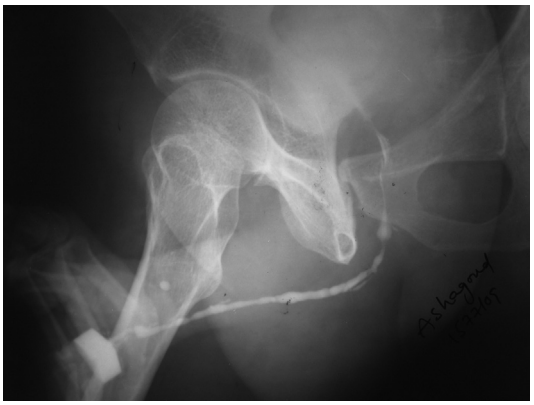

Fig. 2. Urethrogram in a patient with panurethral stricture.

SURGICAL TECHNIQUES OF PANURETHRAL REPAIRS

Johanson's Staged Urethroplasty

The classic 2-stage method was developed in the 1950s by Bengt Johanson.[1] The Johanson