Risk of Repeat Anti-Incontinence Surgery Following Sling Release: A Review of 93 Cases

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Purpose: Sling procedures are the most common surgery for stress urinary incontinence in women. Lower urinary tract symptoms are well documented complications of these procedures that develop in 5% to 20% of patients. A common treatment for postoperative urinary retention and bothersome obstructive voiding symptoms after anti-incontinence surgery is sling release. While previous studies indicated the risk of recurrent stress urinary incontinence after surgical release of slings, there is a paucity of data on how many patients require repeat anti-incontinence procedures.

Materials and Methods: After receiving institutional review board approval we retrospectively reviewed the records of 143 consecutive female sling release procedures performed by 2 subspecialized urologists at our clinic from January 2000 through August 2012. A total of 121 patients underwent documented followup at our clinic, of whom 93 were treated with sling release for obstruction or retention after sling placement. We identified the characteristics of this patient population, specifically the incidence of subsequent anti-incontinence procedures.

Results: Mean ± SD patient age was 58 ± 13.2 years and median patient followup after surgical sling release was 32 months (IQR 6, 67). Of the 93 patients 13 (14%) required a repeat anti-incontinence procedure after sling release at a median of 3 months.

Conclusions: Sling release remains an important treatment option in patients with obstruction after anti-incontinence surgery. Only a small percent of patients require repeat anti-incontinence surgery for recurrent stress urinary incontinence.

Key Words: urethra; urinary incontinence, stress; suburethral slings; reoperation; female

Stress urinary incontinence is a prevalent issue that may affect more than 40% of women.[1] Because of long-term efficacy, sling procedures are one of the most common operations in women with this type of urinary incontinence.[2] Although sling placement is usually well tolerated, lower urinary tract symptoms are a well documented complication of these procedures, which may develop in up to 20% of patients.[3–7] A commonly used surgical intervention for postoperative urinary retention and bothersome obstructive voiding symptoms after anti-incontinence surgery is sling release.[6,8–10] While previous studies indicated the risk

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of recurrent stress urinary incontinence after urethrolysis or sling incision, there remains a paucity of data on the number of patients who require repeat anti-incontinence surgery.

Thus, we evaluated the clinical features and outcomes of patients who underwent sling release for obstruction after urethral sling placement. Specifically, we determined the incidence of repeat surgery for recurrent stress urinary incontinence after sling release.

MATERIALS AND METHODS

After receiving approval by our institutional review board we retrospectively reviewed the records of 143 consecutive female sling release procedures performed by 2 subspecialized urologists at our clinic from January 2000 through August 2012. A total of 121 patients underwent documented followup at our clinic. For this study we selected only women who underwent synthetic mid urethral, cadaveric or autologous sling surgery, of whom 93 were treated with sling release for obstruction or retention after sling placement. Patients who underwent sling release due to erosion or pain were excluded from analysis. We describe the features of this patient cohort, including presenting symptoms, preoperative evaluation, operative technique and postoperative characteristics.

Obstruction was determined based on clinical history, physical examination, and urodynamic and cystoscopic findings. To determine obstruction we used the composite picture of clinical information, such as decreased urinary stream, difficulty emptying to completion, posturing to empty and irritative voiding symptoms as well as increased post-void residual urine, high voiding pressure, decreased urinary flow, urethral narrowing in patients with videourodynamic studies and cystoscopic evidence of angulation consistent with an overcorrected anti-incontinence procedure.[11–13] Sling incision was defined as division of the sling directly beneath the urethra. Partial sling resection was defined as removal of any portion of the sling but not the entire sling. Complete sling removal was defined as entire explantation of all sling material.

We evaluated the incidence of repeat anti-incontinence procedures after sling release. The Kaplan-Meier method was used to determine factors associated with the risk of repeat anti-incontinence surgery after a sling release procedure. Kaplan-Meier curves were compared using the log rank test.

RESULTS

Clinical Features

In our patient population mean ± SD age was 58.1 ± 13.2 years and median followup was 32 months (IQR 6, 67). Median time from original stress urinary incontinence surgery to sling release was 5 months (IQR 2, 12). The original anti-incontinence procedure was performed at our institution in 32 patients (34%). A total of 47 patients (50%) underwent autologous or cadaveric pubovaginal sling placement as the primary anti-incontinence procedure, and a synthetic sling was placed in 38 (41%). We could not identify the exact sling procedure in 8 patients (9%) since operative reports from elsewhere were unavailable at urethrolysis. Of the women 50 (54%) presented with varying degrees of urinary retention requiring catheter drainage with an indwelling catheter or intermittent catheterization. Obstructive or urge symptoms were the primary complaint in 39 patients (42%). The remaining patients had recurrent urinary tract infections with incomplete bladder emptying, as demonstrated by increased post-void residual urine.

The decision to proceed with sling release surgery was based on the overall clinical picture, including patient history and physical examination as well as urodynamics/videourodynamics and cystoscopy. A formal urodynamic study was done in 78 women (84%) during symptom evaluation after the anti-incontinence procedure. Obstruction was noted in 91% of these patients based on increased voiding pressure, decreased urinary flow or urethral narrowing on videourodynamics. Cystoscopy performed in 53 patients revealed angulation in 68%, consistent with an overcorrected anti-incontinence procedure. The table lists the clinical features of this cohort. At sling release 52% of patients underwent sling incision and 43% underwent partial sling resection while complete sling removal was done in only 5%.

Clinical Outcomes

Of the 93 patients 13 (14%) elected reoperation for recurrent stress urinary incontinence after sling release. Five of the 47 women (11%) who underwent

Clinical characteristics of patient cohort

	No. Pts (%)
Original sling:	
Autologous/cadaveric pubovaginal	47 (50)
Synthetic mid urethral	38 (41)
Unspecified	8 (9)
Presenting symptom(s):	
Catheter dependence	50 (54)
Obstruction/urge	39 (42)
Recurrent urinary tract infections	4 (4)
Urodynamics:	78
Videourodynamics	25 (32)
Obstruction on urodynamics or videourodynamics	71 (91)
Cystoscopy	53
Obstruction on cystoscopy	36 (68)
Sling release extent:	93
Incision	48 (52)
Partial resection	40 (43)
Complete removal	5 (5)