#377: Incidence of Stress Urinary Incontinence Following Mesh-Tape Excision Surgery

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Introduction

Mid-urethral slings (MUS) have been widely regarded as the gold standard procedure for stress urinary incontinence (SUI). Concerns have been raised regarding the long term safety of vaginal mesh and its associated complications, with restrictions being imposed on their use by regulatory bodies. For some patients, surgical excision is required to address mesh related complications, however this often leads to a recurrence of the initial SUI. Our aim was to examine the incidence of worsening SUI following MUS excision, and any further surgical management undertaken for recurrent SUI.

Study Design, Materials and Methods

We undertook a retrospective cohort study of women undergoing surgical excision for MUS related complications at our tertiary mesh centre between 2015 and 2020. Data was gathered from electronic clinical records on patient demographics, intra-operative findings, sling characteristics and extent of mesh removal, and urinary symptoms at follow-up.

Prior to surgery, conservative methods including referral to pain management services and targeted physiotherapy were explored. All patients undergoing surgery were counselled on potential complications including the risks of worsening urinary incontinence including recurrent or worsening SUI. All patients underwent formal discussion by the dedicated multidisciplinary team prior to being listed for MUS revision surgery.

Results

Following review of inclusion and exclusion criteria, 86 patients undergoing excision of MUS between 2015 and 2020 within our mesh centre were eligible for further analysis.

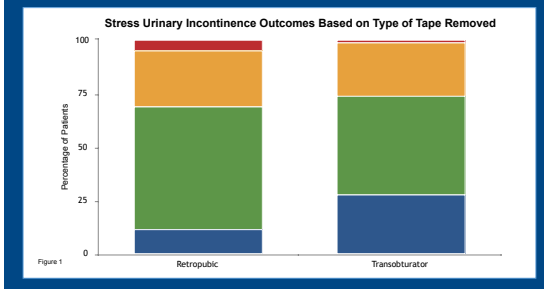
Indication for removal
The most common indication for MUS removal was pain, with 65 (75.6%) of patients reporting this. Mesh exposure was seen in 37 (43%) of patients, whilst mesh perforation was less common (11 patients, 12.8%). Sepsis was noted in only 4 patients (4.7%).

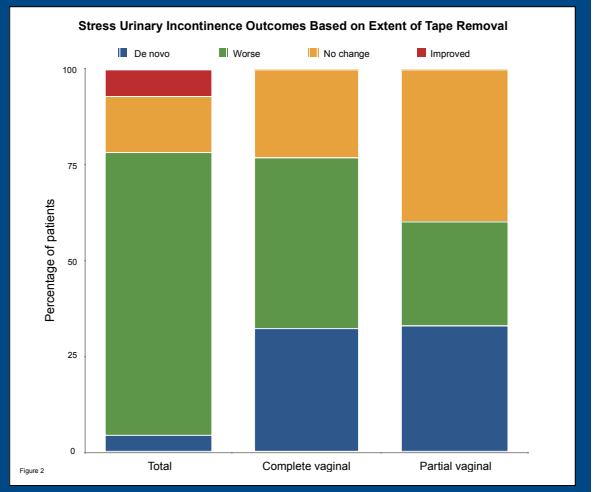
Extent of tape removal
45 patients (52.3%) underwent complete vaginal MUS removal. Total MUS removal was undertaken in 26 patients (30.2%), and partial vaginal removal in 14(16.3%). 1 patient (1.2%) underwent both total removal of 1 MUS and partial vaginal removal of a second.

Intra-operative complications
3 patients (3.5%) sustained a urethral injury intra-operatively.

Follow-up
The majority of patients (n=73/84.9%) underwent follow-up within 6 months, with 8 patients (9.3%) having first follow-up at 1 year. 5 patients (5.8%) were not reviewed until 2 to 3 years postoperatively.

Stress urinary incontinence outcomes
49 (57%) of patients reported SUI prior to MUS removal. Of these, 44 (51.2%) had a deterioration of their pre-existing SUI symptoms. 20 patients (23.2%) reported de novo SUI. 20 (23%) reported no change. Overall, therefore, **the incidence of new or worsening SUI was 74.4%.** The onset of SUI symptoms following removal appeared to be early, with only 2 patients (3%) reporting symptom deterioration 1 to 2 years into follow-up; all others reported symptoms at the time of their first review.





Results

Repeat surgery for stress urinary incontinence
25 patients (29.1%) underwent repeat surgical management of SUI, with 8 (9.3%) further patients awaiting surgery. The mean interval from mesh removal was 16.5 months with a range of 5 to 51 months. See table 1 for surgical outcomes. Autologous fascial sling (AFS) appeared to have the highest success rates, with 86% of patients reporting cure or improvement of SUI. Conversely, with both urethral bulking agents and colposuspension, 0 patients had improvement in their symptoms. Of the 10 patients whose symptoms did not improve following their initial procedure, 6 underwent further treatment. These were urethral bulking agent (1 patient having a further top-up, 1 following colposuspension and 1 following AFS; and AFS (2 following urethral bulking agent and 1 following colposuspension).

Overactive bladder outcomes
The majority of patients (n=56/65.1%) had pre-existing OAB prior to MUS removal. Following excision, 6 patients (7%) reported de novo OAB whilst 27 (31.4%) reported a deterioration in their pre-existing OAB. 22 patients (25.5%) reported no change to their symptoms, and 20 patients (23.3%) denied OAB at follow-up.

Table 1

	Stress Urinary Incontinence Outcomes Following Repeat Surgery				
Procedure	**Cured**	**Improved**	**No change**	**Worse**	**No follow-up data**
Autologous Fascial Sling	8 (57%)	4 (29%)	2 (14%)	0 (0%)	0
Colpo-suspension	0 (0%)	0 (0%)	2 (100%)	0 (0%)	0
Urethral Bulking Agent	0 (0%)	0 (0%)	5 (83%)	1 (17%)	3

Conclusions

There is a demonstrable significant risk of developing worsening SUI following MUS excision. Conservative management is often not sufficient to control these symptoms, and further SUI surgery was requested in 38% of patients. Given the potential impact of stress urinary incontinence on quality of life, patients must be counselled regarding these risks before undergoing surgery, and, where appropriate, conservative measures should be explored. Consideration should be taken to suitability for any further incontinence surgery that may be required following MUS excision.