The Sub-Urethral, Tension Adjustable Sling (REMEEX system) in the treatment of Recurrent Female Urinary Incontinence

Considine S1, Moran D1, Bolton E1, Haroon U1, Nama G1, Ghouss H1, Cham A1, Siddiqui R2, Jaffry S1,2

1. Galway University Hospital, Galway, Ireland. 2. Galway Clinic, Galway, Ireland

INTRODUCTION
Stress urinary incontinence (SUI) is a common condition in females, effecting 4-35% of women at some point in their lifetime1. Risk factors include smoking, raised BMI, Diabetes mellitus, pelvic organ prolapse and age > 70 years. This condition can have a significant impact on a patient’s quality of life with severe limitations on their social interactions and activity. In 2006, 1 in 1000 American women underwent procedures for SUI2. The mainstay of modern surgical management of female SUI is the insertion of slings to reposition the urethra within the pelvis and allow optimal action of the sphincter. While these procedures can be very effective, there is a significant rate of sling failure, with 13% of patients undergoing further procedures for SUI3. Treatment of sling failure is more complex, owing to distortion of tissue planes from insertion of the primary sling. We report our experience with the insertion of the Remeex Tension Adjustable Sling System for the management of recurrent female SUI following primary sling failure.

THE REMEEX SYSTEM

The Remeex System female sling consists of a sub-urethral sling, which is placed by the standard retro-pubic approach. In contrast to other slings, the limbs of the Remeex system are attached to a Varitensor device which is implanted sub-cutaneously into the anterior abdominal wall. This device can easily be accessed under local anaesthesia, and is utilised to adjust the tension of the sling, allowing accurate titration of sling tension against symptoms. This is particularly useful as a common mechanism of fixed tension sling failure is loosening over time.

METHODOLOGY

We performed a retrospective review of all patients undergoing insertion of a Remeex Adjustable Tension sub-urethral sling for the management of recurrent SUI. All patients had previously been treated with a fixed tension sling device and had developed recurrent symptoms of moderate intensity stress incontinence requiring the use of pads. All patients were operated on by a single surgeon. Patients were followed up at 4 weeks post-op for adjustment of sling tension under local anaesthetic in the urology day ward. This was performed in the standing position to allow replication of the patient’s symptoms using a simple stress test. The sling was then adjusted using the varitensor until no further stress leaks were observed. They were then seen periodically in the urology OPD to assess response to treatment.

RESULTS

24 patients were identified for inclusion. All patients had previously undergone insertion of a fixed tension sub-urethral sling and had current moderate severity SUI, utilising between 2 and 4 pads per day. Patients underwent flexible cystoscopy and cystometry prior to revision surgery to characterise their disease and ensure no significant tape erosions.

We utilised the commonly applied definition of cure, the use of no pads or a single security pad which was usually dry, to characterise our cohort. Symptomatic improvement was defined as a reduction in the number of incontinence pads used per day. Based on this definition, 95.8% patients achieved complete cure, with the remaining 4.2% (n=1) reporting symptom improvement. In addition to the routine tension adjustment at 4 weeks post op, 8 patients (33%) required a further tension adjustment at one year due to recurrent SUI. All patients reported symptom relief following tension readjustment.

DISCUSSION

We present our experience with the Remeex Adjustable Tension Urethral Sling for the management of recurrent stress urinary incontinence, following failed primary surgery. This system has been shown to achieve continence rates of 87.5% for revision sling surgery4, higher than the 74% cure rate reported with fixed tension slings5. In our series, we have demonstrated excellent clinical outcomes, with all patients experiencing an improvement in their symptoms and low rates of complications. Our cure rate of 95.8% in recurrent stress urinary incontinence compares favourably with that reported by Schmit et al in their series. The main benefit of this system is the ability to simply readjust sling tension if symptoms recur, without the need for major revision surgery, or even general anaesthetic.

CONCLUSION

We advocate the use of the Remeex Adjustable Tension Sling System as a safe and effective management strategy for recurrent female SUI following sling failure, with excellent sure rates and low incidence of complications.

COMPLICATIONS

<table>
<thead>
<tr>
<th>Complication</th>
<th>N (%)</th>
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<tbody>
<tr>
<td>Acute Urinary Retention</td>
<td>2 (8.3%)</td>
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<tr>
<td>Seroma</td>
<td>3 (12.5%)</td>
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<tr>
<td>Bladder Injury</td>
<td>0 (0.0%)</td>
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<tr>
<td>Sling Exploitation</td>
<td>0 (0.0%)</td>
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</tbody>
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REFERENCES