

BACK TO THE FUTURE IN FEMALE STRESS URINARY INCONTINENCE SURGERY – ARE THE TITANS RISING AGAIN?

Hypothesis / aims of study

Since the 1990's, when the tension-free vaginal tapes (TVT) or midurethral slings (MUS) were first introduced, the use of synthetic materials to surgically treat female stress urinary incontinence (SUI) has dramatically increased and overtaken the former Burch colposuspension. However, in the past 5-10 years, the possible, sometimes irreversible, complications of tapes (e.g. obstruction, pain, dyspareunia, erosion) have received more and more attention. Notifications were issued by the US Food and Drug Administration (FDA) in 2008 and 2011, and the problem was recognised by the Medicines and Healthcare Products Regulatory Agency (MHRA) in the UK with withdrawal of mesh in some countries e.g. Scotland. A number of websites were created from patients' experiences, reaching the attention of the general public. (1)

In this retrospective study, we aimed to evaluate the trend in patients' preference for type of female SUI surgery as a measure of the impact of the social awareness of mesh-related complications on daily Female Urology and Urogynaecology practice when dealing with female SUI.

Study design, materials and methods

A retrospective study was conducted of operations performed in a single centre by one functional and female urologist and two urogynaecologists. The numbers of the four standard surgical interventions, as per the National Institute for Health and Care Excellence (NICE) guidelines for female SUI [Bulking agents, synthetic MUS (TVT/TOT), Colposuspension (Open/Laparoscopic) and Autologous Fascial Sling] were evaluated over a period of 5 years (2012-2016).

As a standard of practice, women with bothersome SUI despite conservative measures (lifestyle interventions, medication or pelvic floor muscle therapy) are offered urodynamic evaluation (including urethral pressure profilometry). Subsequently they are discussed at a multidisciplinary team meeting (Urologists, Urogynaecologists, Urodynamic practitioners and Pelvic Floor Physiotherapists). Women are then offered surgical options and sent the British Association of Urological Surgeons (BAUS) and/or the British Society of Urogynaecology – (BSUG) leaflets on all possible SUI surgical interventions for their review. The patient is then asked to contact the department with their procedure preference. They are also offered to be seen in clinic to discuss options further if they wished. The surgical options would have also been discussed with them at the urodynamics session. The type of treatment offered is therefore purely patient-decided, based on standardised information and their own research. Statistical analysis was performed using SPSS 24 (IBM, NY, USA). Data were analysed using Pearson's Chi square tests and statistical significance was set at $p < 0.05$.

Results

Over a period of 5 years, 599 female SUI surgical interventions were performed. Data is presented in Table 1. Statistical analysis showed a significant difference between the different years ($p < 0.001$). The post-hoc analysis is presented in Table 1, and the decrease in synthetic MUS procedures and increase in Colposuspension were found to be statistically significant factors in the Bonferroni post-hoc analysis ($p < 0.0025$). Percentage distribution is presented in Figure 1.

Interpretation of results

This retrospective study on female SUI surgery shows a significant change in preference of procedure by the patients when offered different SUI surgical options. There is a re-emergence of Colposuspension as a treatment of choice for female SUI. Bulking agents are also gaining in popularity as a minimal-invasive alternative. Autologous Fascial Sling remains a stable alternative. Synthetic MUS still remains the most performed procedure but its dominance has significantly declined over the past 2 years.

Concluding message

A retrospective study on surgery for female SUI in a centre that offers all surgical options as per the NICE guidelines showed a significant decline in synthetic MUS procedures and a re-emergence of Colposuspension when patients were allowed to choose their preferred surgical procedure based on informed consent using national information leaflets and their own research. Social awareness of synthetic tape-related complications possibly has a role in this and may further influence daily female urology and urogynaecology practice in the future when dealing with female SUI.

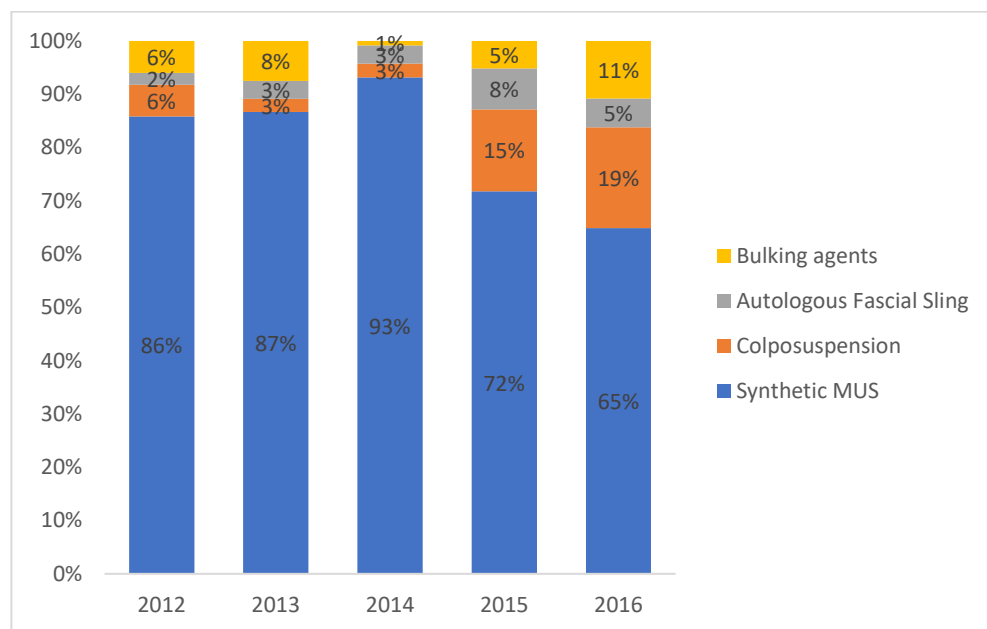
Tables and Figures

Table 1: Overview of procedures for female stress urinary incontinence by year, performed in a single centre.

Year	Bulking agents	Synthetic MUS	Colposuspension	Autologous Fascial Sling	TOTAL
2012	8	115	8	3	134
2013	9	104	3	4	120
2014	1	109	3	4	117
2015 ^{a,b,c}	6	84	18	9	117
2016 ^{a,b,c}	12	72	21	6	111
					599

^a = statistically significantly different from 2012 ($p < 0.05$), ^b = statistically significantly different from 2013 ($p < 0.01$), ^c = statistically significantly different from 2014 ($p = 0.000$). MUS = Mid Urethral Sling.

Figure 1: Percentual distribution of procedures for female stress urinary incontinence by year, performed in a single centre.



MUS = Mid Urethral Sling

References

- 1) Chapple CR, Raz S, Brubaker L, Zimmern PE. Mesh sling in an era of uncertainty: lessons learned and the way forward. Eur Urol. 2013 Oct;64(4):525-9.

Disclosures

Funding: NONE **Clinical Trial:** No **Subjects:** HUMAN **Ethics not Req'd:** Retrospective study (not interventional and no contact with patients). The retrospective statistical analysis of data occurred on an anonymous basis. If both conditions are met (retrospective study and anonymous), then no ethics committee approval is required. **Helsinki:** Yes **Informed Consent:** No