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EDITORIAL

What if you could not do a mid-urethral sling?

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This is a question I think most surgeons who treat patients with stress urinary incontinence do not want to ask themselves. However, this is the very question that surgeons in the UK have been asking themselves, as they are currently dealing with a "high vigilance restriction period" called for by the National Health Service (NHS), which is in effect a ban on polypropylene tension-free mid-urethral slings (www.gov.uk/government/news/government-announces-strict-rules-for-the-use-of-vaginal-mesh). While the US Food and Drug Administration and most other national health care agencies around the globe have not endorsed a ban on mid-urethral slings, the actions of the NHS should be seen as concerning and something most UK surgeons would not have anticipated.

I trained and spent the first 5 years of my clinical practice in the era of the retropubic colposuspension, retropubic needle procedures and pubovaginal slings and feel that while I was practicing very good if not the best medicine available I was not providing my patients a "great product." Our procedures were effective, but from a quality-of-life view, they were fairly invasive, at least the procedures that were considered most effective—retropubic colposuspesion and pubovaginal slings. Partly because of this dissatisfaction that was shared by many in that era, this was also a time of great surgical innovation.

The retropubic colposuspension was looked upon as the "gold standard" of that era, but it involved an abdominal approach often with a 1–2-day hospital admission with potential surgical morbidity [1]. Transitioning to a laparoscopic retropubic colposuspesion removed the large abdominal incision, but not all of the surgical morbidity. So surgeons were constantly looking for alternatives.

This was in large part responsible for an explosion of innovation in the less invasive retropubic needle colposuspension procedures. We had a new modified technique being published every 6–12 months. The innovations in retropubic needle colposuspension procedures stemmed from the frustrations of finding a minimally invasive alternative to the retropubic colposuspension that provided an equal level of success or cure. Most retropubic needle colposuspension procedures survived only until surgeons became frustrated by their lack of efficacy, which generally took 1 to 2 years. At that point, a new modification was described. These procedures and their myriad modifications have not stood the test of time and are no longer recommended because of their lack of efficacy.

The pubovaginal sling was often considered a second-line therapy because although it provided a high level of success (similar to the retropubic colposuspension), it had a high level of urinary retention approaching 10% [2]. The retention usually resolved within 6–8 weeks, but patients were dissatisfied by having to do clean intermittent self-catheterization 4–5 times a day in the acute postoperative period. This was doubly problematic if they had rectus fascia harvested for their sling as this made it difficult to lean forward to manipulate and do their own catheterization. Having patients in the office weekly, complaining about the difficulty of doing self-catheterization, and trying to convince them that this will improve was a clinical challenge. So while this was the procedure that we knew would "do the trick," it had its consequences and was not my first choice.

In the mid-1990s along came the retropubic tension-free vaginal tape. This was touted as a minimally invasive procedure with less surgical morbidity that could be done under local anesthesia and was as effective as a retropubic colposuspension with little risk of urinary retention. This was too good to be true, and most clinical scientists doubted the early results as being overly optimistic. In one of the early prospective blinded randomized trials of a surgical procedure to treat stress urinary incontinence, investigators in the UK showed that the tension-free vaginal tape was equivalent in success to an open retropubic colposuspension, with fewer complications at 1 and then 5 years. This had a significant effect the urogynecology world and, as a friend of mine, T. Fleming Mattox, MD, said "it is the most disruptive

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innovation in urogynecology of our lifetime" (in a positive sense). He was correct because retropubic mid-urethral slings very quickly dominated all surgical procedures for stress urinary incontinence, accounting for about 90% of surgery worldwide to treat stress urinary incontinence [3]. Concerns with bladder perforations then lead to the introduction of the transobtruator tape mid-urethral sling, which appeared to be as effective and minimally invasive as the retropubic mid-urethral sling.

Finally, we had two very good minimally invasive procedures to treat stress urinary incontinence. Then, outside forces became involved. How this happened is open to debate and worthy of an editorial itself. Currently, if we are not vigilant, we may face the real possibility of going back to a time before mid-urethral slings were available. If this happens, will it lead to the type of innovation that we experienced in the 1980s and 1990s that led to the development of the tension-free midurethral slings?

My hope is that we will not lose this incredible tool that has helped so many patients. I find it ironic that the country and system that established the tension-free mid urethral sling as the new "gold standard" in stress urinary incontinence surgery (the NHS of the UK) was the same group that 20 some years later banned one of the most successful surgeries to treat stress urinary incontinence. So I feel that as a group, specialists in Female Pelvic Medicine and Reconstructive Surgery, we should continue to educate and advocate for access to midurethral slings. However, there are outside influences that are threatening that access and we should also continue to innovate, always looking for better options to manage stress urinary incontinence.

Compliance with ethical standards

Conflicts of interest Legal Expert for Boston Scientific defending mid-urethral slings.

References

1. Burch J. Urethrovaginal fixation to Cooper's ligament for correction of stress incontinence, cystocele and prolapse. Am J Obstet Gynecol. 1961;81:281.
2. Novara G, Artibani W, Barber MD, et al. Updated systematic review and meta-analysis of the comparative data on colposuspensions, pubovaginal slings, and midurethral tapes in the surgical treatment of female stress urinary incontinence. Eur Urol. 2010;58:218–38.
3. Funk MJ, Levin PJ, Wu JM. Trends in the surgical management of stress urinary incontinence. Obstet Gynecol. 2012;119(4):845–51.

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