**Current Issues in Treatment of Urinary Stress Incontinence**

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*Received May 03, 2019; Accepted May 13, 2019; Published December 07, 2019*

**INTRODUCTION**

Urinary stress incontinence (USI) is a common problem among women. It was reported that the incidence of urinary incontinence in women is about 25-45% [1]. It was thought that almost 30% of women after the age of 40 will develop urinary stress incontinence. It is a bothersome symptom among women that affects their quality of life.

There have been several ways to treat this condition beginning with the Kegel’s or pelvic floor exercises that strengthens the pelvic floor which is the initial treatment advocated to these women [2]. The pelvic floor exercises can be further improved with biofeedback techniques [3]. There were vaginal pessaries designed for USI but there was no major improvement on these. Surgical treatment has been the mainstay option for those who did not improve with conservative treatments for many years. Other complementary therapy has been advocated but it needs further evidence before it can be incorporated into clinical practice [4].

Several methods of surgical treatments have been tried such as Kelly’s fascial plication and pubo vaginal needle suspension. However among the more popular and earlier successful surgery was the Burch Colposuspension [5]. However this is a major surgery and has higher risk of intraoperative bleeding as well as post-operative voiding dysfunction.

Prof. Petros and Prof. Ulf Ulmstein proposed in their intergral theory that the anatomical site of the pathology is the defect at the mid urethra at the pubourethral ligament [6]. This ligament is weakened or damaged during childbirth particularly, causing the urine leak during raised intra-abdominal pressure.

This led them to relook at the pubovaginal slings. After extensive research the world saw the introduction of the “Tensionless vaginal tape” (TVT) [7-9]. It was short procedure, safe and showed great success rate. It was also easy to learn and took the world by storm. It was embraced easily and further modifications were done to improve the surgery. The transobturator approach and the mini slings were among there variants [10,11]. But the placement at the mid urethra was the key to use of these slings.

The common intraoperative complication was bladder perforation which was easily managed. Rare incidences of other organs perforations have been described. Post-operative problems of voiding dysfunction are seen but rarely are a major problem. The transobturator approach has the risk of thigh pain but again this rarely needs surgical intervention. There is a 5% risk of mesh exposure through the vagina which could be easily dealt with [10,11]. There were a variety of meshes used initially but finally the use of monofilament Type 1 polypropylene mesh is the mainstay of sling surgeries

The overall success rate of the mid urethral slings was about 90% [7,8] and it was a great boon to the women suffering from urinary stress incontinence. It was a minimally invasive surgery, had minimal complications and good long term effectiveness.

The success of the TVT was extrapolated to be used in vaginal prolapse repairs. The larger meshes were implanted in the vagina. Even though the long term effectiveness of vaginal meshes as opposed to native tissue repairs have been shown, unfortunately complications of vaginal mesh began to present it. The problems of mesh infection, exposure and chronic pain was debilitating to some women where the mesh had to be excised. This unfortunately can present even at later stage after several years. As more women presented with the problems, The FDA took notice and issued alerts and warnings. This was followed by multiple legal cases in the USA.

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**Citation:** Balakrishnan SS. (2019) Current Issues in Treatment of Urinary Stress Incontinence. J Womens Health Safety Res, 3(3): 120-122.

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It made the physicians to take notice and became more cautious in the use of vaginal mesh. Even though most of the complications involved the vaginal meshes, unfortunately the mid urethral sling was also tainted in this issue. The legal cases tend to include the slings as well in the mesh group even though the sling use has been in practice for more than 20 years.

Recently in July 2018, the UK, the NHS, has temporarily halted the use mid urethral sings pending further review. This is very unfortunate as it deprives women from receiving appropriate treatment for USI.

So where are we heading? [12] We hope that good sense prevails and the use of mid urethral sling will be reinstated in the UK. There are thousands of women who have benefitted with this surgery. Their quality of life improved significantly. Unfortunately these benefits have been drowned by small number of patients affected by complications of slings. There is evidence to suggest very low risk of sling removal after many years of insertion [13]. Losing this surgery is therefore a disservice to women worldwide.

The medical professionals of course are trying their best to continue to help women with USI. A relook at Burch colposuspension is possible but a lot of surgeons are not trained in this and will need retraining. The fascial sling can be used as an alternative to the polypropylene tapes. However we need to relook the reasons why we moved from fascial slings to synthetic one in the first place.

There are intra urethral injections of bulking agents that seems increasingly to be an option [14]. If this option is found to be useful and economical, then it can be used widely. We are hopeful that new research will provide better implant material that may avert potential complications associated with the current mesh and make this surgical option a better one.

In conclusion, as the medical profession continues to find a long term solution to identify the best option in treating USI, let’s hope that the sling operation is not sent to oblivion ignoring the many women who have benefitted from this surgery.

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