Clinical Opinion

Women with occult stress incontinence should not routinely have a mid-urethral sling with prolapse surgery

Peter L Dwyer

Department of Urogynecology

Mercy Hospital for Women

University of Melbourne

Melbourne

The definition of occult urinary stress incontinence (OSI) has recently been defined by the standardization committees of IUGA and the ICS as: “stress incontinence on prolapse reduction (1).” The definition of OSI we have used is: the presence of stress incontinence on examination or urodynamic stress incontinence in women with pelvic organ prolapse (POP) who have no symptoms of stress incontinence. The pivotal question is what the significance of the finding of the sign of stress incontinence in stress continent women with POP. The sign of OSI may be present on clinical examination or urodynamic assessment with the prolapse reduction or not. Should an OSI procedure be performed at the time of POP surgery to prevent stress incontinence deteriorating postoperatively, necessitating a second operation for OSI, or is this unlikely and an OSI operation at the time of POP only contributes to increased unnecessary morbidity?

There is no consensus amongst gynecologists on this issue. In 2 recent surveys, one in the UK (2) and another in Australia and New Zealand (3), gynecologists were asked whether they would perform a mid-urethral sling (MUS) in a woman with POP and OSI. They responded yes in 54% (UK) and 46% (ANZ), respectively. Gynecologists who were subspecialists or who had a special interest in urogynecology were more likely to use a MUS than generalists. Practices in POP surgery vary around the world from those who believe OSI surgery should be performed in all women having POP surgery, regardless of continence status, to a view widely held in Europe that OSI surgery should never be

performed with POP surgery even when a woman has symptomatic stress incontinence. If clinically indicated, a second procedure should be performed following surgery.

The incidence of OSI has been reported in the literature to vary widely, depending on how it was diagnosed. In the Colpopexy and Urinary Reduction Efforts (CARE) study, preoperative detection of OSI with prolapse reduction at 300ml varied with the type of examination, and was pessary (6%), manual, (16%), forceps (21%), swab (20%), and speculum (30%) (4). In 2 prospective studies performed in our department, the incidence of OSI was 17% (146 of 845 patients) (5) and 11% (11 of 96 patients) (6). When one considers the number of operations performed for vaginal prolapse, the routine use of stress incontinence surgery with POP surgery will significantly increase the number of continence procedures being performed so it is important that this decision is made on evidence-based medicine.

In the CARE trial, women with prolapse and no symptoms of stress incontinence were prospectively randomized into abdominal sacrocolpopexy, either to a Burch colposuspension or no anti-incontinence procedure at the time of sacrocolpopexy (7). Women who had a concomitant Burch colposuspension compared to no continence procedure had a 24% versus 44% stress incontinence rate, respectively, at 3 months or 32% and 45%, respectively, at 2 years (8). Stress incontinence was defined as the presence of symptoms or a positive cough stress test or the need for interval treatment for stress incontinence (8). The results of this large study indicate that OSI surgery is necessary in not only woman with OSI but all patients having POP surgery or at least an abdominal colposacropexy. This needs to be balanced against potential complications of the Burch colposuspension, which include postoperative voiding dysfunction and a higher incidence of posterior compartment prolapse (9). The high incidence of OSI following abdominal colposacropexy reported by Brubaker has not been our experience over 25 years of performing these operations. In a prospective randomized study comparing abdominal colposacropexy to vaginal sacrospinous suspension (6), the *de novo* stress incontinence rate defined as symptomatic or urodynamic OSI was 9% compared to 33% following the sacrospinous suspension. We believe the higher incidence in the sacrospinous suspension group was due to the fact that the vagina was suspended under increased tension in a posterior direction, increasing the risk of

postoperative OSI as well as cystocele. For similar reasons, it is important not to over-suspend the vaginal vault and anterior wall during abdominal colposacropexy by using an adequate length of mesh (greater than 20 cm) to support the vagina to the anterior sacral promontory.

Mid-urethral slings have become the preferred operation for OSI worldwide, replacing the Burch colposuspension over the last 10 years. Meschia et al (10) prospectively compared the Tension free Vaginal Tape (TVT) procedure and Kelly plication in 50 patients with OSI who had a POP repair. This study favours the TVT procedure at the time of vaginal prolapse surgery with a continence rate of 96% compared to 64% in the fascial plication arm.

In a prospective randomized controlled study, Schierlitz et al (5) compared the outcomes in women with symptomatic POP and OSI with and without TVT. After 24 months follow-up, 4 (9.3%) TVT slings were inserted for treatment of symptomatic SUI in the group of women with prolapse surgery alone and none in the group with prolapse surgery and insertion of TVT. The time from prolapse repair to sling insertion in the group of women with prolapse surgery alone was 1.8, 7.5, 9.3, and 27 months. These results indicate that in women with OSI and prolapse, a clinician would have to insert 10 TVT slings to prevent one woman from requiring a sling 2 to 4 years postoperatively.

In the OPUS trial recently reported at the annual International Continence Society (ICS) meeting (2011), (11) women with anterior POP and no symptoms of OSI were randomized into TVT and no TVT sling. A third of the patients enrolled had OSI. At 12 months, urinary incontinence (defined as a positive stress test and/or bothersome urinary incontinence) was present in 27% (45/165 women) with a TVT and 43% (74/172) with no TVT. Complications of major bleeding and voiding difficulty were greater in the TVT group. Sling release surgery was performed in 2/165 women in the TVT group. They estimated that 6 women had to have a sling inserted at the time of surgery to prevent 1 postoperative sling operation.

In a prospective cohort study of 809 patients having a TVT alone, Schraffordt Koops et al (12) found the total incidence for postoperative complications was 20.9%, with retropubic hematoma (3.4%), bladder perforation (3.5%), tape erosion (0.2%), an

indwelling bladder catheter more than 24 hours (14.9%), and TVT tape division for voiding difficulty (1.6%). Many of these complications are minor but will add to morbidity when combined with POP surgery. This needs to be considered when weighing the benefits and risks and discussed with patients.

Conclusion

The risk of postoperative OSI is increased in women with OSI but the majority of patients will not develop troublesome OSI postoperatively or need further OSI surgery. This risk reported in current studies does not warrant a MUS at the time of POP surgery in women with OSI. However, if performed, the risks as well as the benefits need to be discussed with the patient. We should remember our Hippocratic oath - Primum non nocerum. Thus, until there is good evidence that the benefits significantly outweigh the risks, we should adopt a conservative approach and not treat women with prolapse who are continent with stress incontinence surgery.

References

1. Haylen BT, de Ridder D, Freeman RM, et al (2010) An International Urogynecological Association (IUGA)/International Continence Society (ICS) joint report on the terminology for female pelvic floor dysfunction. *Int Urogynecol J Pelvic Floor Dysfunct* 21: 5-26
2. Jha S, Moran PA. National survey on the management of prolapse in the UK. *Neurourol Urodyn* 2007; 26: 325-331
3. Vanspauwen R, Semen E, Dwyer PL. Survey of current management of prolapse in Australia and New Zealand. Current management of prolapse in Australia and New Zealand. *Aust NZ J Obstet Gynaecol* 2010 50(3): 262-267
4. Visco AG, Brubaker L, Nygaard I et al The role of preoperative urodynamic testing in stress-continent women undergoing sacrocolpopexy: the Colpopexy and Urinary Reduction Efforts (CARE) randomized surgical trial. *Int Urogynecol J Pelvic Floor Dysfunc* 2008 19: 607-614

5. Schierlitz L., Dwyer PL, Rosamilia A., Murray C., Thomas E., Taylor N., Hiscock R., Lim Y., Achtari A., DeSouza A. A prospective randomised controlled study comparing vaginal prolapse repair with and without Tension free Vaginal Tape (TVT) in women with severe genital prolapse and occult stress incontinence; 3 year follow. *Int Urogynecol J* 2010 21 (Suppl 1) S2.

6. Maher CF., Qatawneh AM., Dwyer PL., Carey MP., Cornish A., Schluter P. Abdominal sacral colpopexy or vaginal sacrospinouscolpopexy for vaginal vault prolapse: a prospective randomised study. *Am J Obstet Gynecol* 2004; 190: 20-26.

7. Brubaker L, Cundiff GW, Fine P, Nygaard I, Richter HE, Visco AG, Zyczynski H, Brown MB, Weber AM; Abdominal sacrocolpopexy with Burch colposuspension to reduce urinary stress incontinence. *N Engl J Med.* 2006 13;354(15):1557-66.

8. Brubaker L, Nygaard I, Richter HE, Visco A, Weber AM, Cundiff GW, Fine P, Ghatti C, Brown MB. Two-year outcomes after sacrocolpopexy with and without Burch to prevent stress urinary incontinence. *Obstet Gynecol.* 2008112(1):49-55.

9. Wiskind AK, Creighton SM, Stanton SL. The incidence of genital prolapse after the Burch colposuspension. *Am J Obstet Gynecol* 1992, 167(2):399-404

10. Meschia M, Pifarotti P, Spennacchio M, Buonaguidi A, Gattei U, Somigliana E. A randomized comparison of tension-free vaginal tape and endopelvic fascia plication in women with genital prolapse and occult stress urinary incontinence. *Am J Obstet Gynecol.* 2004, 90(3):609-13.

11. Wei J. A mid urethral sling prevents incontinence among women undergoing vaginal prolapse repair- the OPUS trial: *Neurourol Urodynam* 2011;30: 809-11

12. SchraffordtKoops S, Bisseling T M, MD, Heintz PM, Vervest HA. Prospective analysis of complications of tension-free vaginal tape from The Netherlands Tension-free Vaginal Tape study. *Am J Obstet Gynecol* 2005 193, 45-52