

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

Peter L. Dwyer

Received: 6 February 2012 / Accepted: 6 February 2012 / Published online: 14 March 2012
© The International Urogynecological Association 2012

Abstract The risk of postoperative stress incontinence (SI) is increased in women with occult stress incontinence (OSI) but the majority of patients will not develop troublesome SI postoperatively or need further SI surgery. This risk reported in current studies does not warrant a mid-urethral sling at the time of surgery for pelvic organ prolapse in women with OSI. However, if performed, the risks as well as the benefits need to be discussed with the patient.

Keywords Occult stress incontinence · Mid-urethral sling · Pelvic organ prolapse

The definition of occult urinary stress incontinence (OSI) has recently been defined by the standardization committees of the International Urogynecological Association (IUGA) and the International Continence Society (ICS) as: “stress incontinence on prolapse reduction [1].” The definition of OSI we have used previously 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 [2]. The pivotal question is what is 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 a SI procedure be performed at the time of POP surgery to prevent stress incontinence deteriorating postoperatively, necessitating a second operation for SI, or is this

unlikely and a SI operation at the time of POP only contributes to increased unnecessary morbidity?

There is no consensus amongst gynecologists on this issue. In two recent surveys, one in the UK [3] and another in Australia and New Zealand [4], 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 SI surgery should be performed in all women having POP surgery, regardless of continence status, to a view widely held in Europe that SI 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 300 ml varied with the type of examination and was pessary (6%), manual, (16%), forceps (21%), swab (20%), and speculum (30%) [5]. In two prospective studies performed in our department, the incidence of OSI was 17% (146 of 845 patients) [2] 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

P. L. Dwyer (✉)
Department of Urogynecology, Mercy Hospital for Women,
University of Melbourne,
Melbourne, VIC, Australia
e-mail: pdwyer@connexus.net.au

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 SI surgery is necessary in not only women 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 SI following abdominal colposacropexy reported by Brubaker et al. 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 SI 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 SI 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 SI 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 favors 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. [2] compared the outcomes in women with symptomatic POP and OSI with and without TVT. After 24 months follow-up, four (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 ten TVT slings to prevent one woman from requiring a sling 2–4 years postoperatively.

In the OPUS trial recently reported at the annual ICS meeting in 2011 [11], women with anterior POP and no symptoms of SI 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 of 165 women in the TVT group. They estimated that six women had to have a sling inserted at the time of surgery to prevent one 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 h (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 SI is increased in women with OSI but the majority of patients will not develop troublesome SI postoperatively or need further SI 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 nocere*. 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.

Conflicts of interest None.

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* 21:5–26
2. Schierlitz L, Dwyer PL, Rosamilia A, Murray C, Thomas E, Taylor N, Hiscock R, Lim Y, Achari A, DeSouza A (2010) 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 up. *Int Urogynecol J* 21(Suppl 1):S2
3. Jha S, Moran PA (2007) National survey on the management of prolapse in the UK. *Neurourol Urodyn* 26:325–331
4. Vanspauwen R, Semen E, Dwyer PL (2010) Survey of current management of prolapse in Australia and New Zealand. *Aust N Z J Obstet Gynaecol* 50(3):262–267
5. Visco AG, Brubaker L, Nygaard I et al (2008) 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 Dysfunct* 19:607–614
6. Maher CF, Qatawneh AM, Dwyer PL, Carey MP, Cornish A, Schluter P (2004) Abdominal sacral colpopexy or vaginal sacrospinous colpopexy for vaginal vault prolapse: a prospective randomized study. *Am J Obstet Gynecol* 190:20–26
 7. Brubaker L, Cundiff GW, Fine P, Nygaard I, Richter HE, Visco AG, Zyczynski H, Brown MB, Weber AM (2006) Abdominal sacrocolpopexy with Burch colposuspension to reduce urinary stress incontinence. *N Engl J Med* 354(15):1557–1566
 8. Brubaker L, Nygaard I, Richter HE, Visco A, Weber AM, Cundiff GW, Fine P, Ghetti C, Brown MB (2008) Two-year outcomes after sacrocolpopexy with and without Burch to prevent stress urinary incontinence. *Obstet Gynecol* 112(1):49–55
 9. Wiskind AK, Creighton SM, Stanton SL (1992) The incidence of genital prolapse after the Burch colposuspension. *Am J Obstet Gynecol* 167(2):399–404
 10. Meschia M, Pifarotti P, Spennacchio M, Buonaguidi A, Gattei U, Somigliana E (2004) 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* 190(3):609–613
 11. Wei J (2011) A mid urethral sling prevents incontinence among women undergoing vaginal prolapse repair—the OPUS trial. *Neuro-urology Urodyn* 30:809–811
 12. Schraffordt Koops S, Bisseling TM, Heintz PM, Vervest HA (2005) Prospective analysis of complications of tension-free vaginal tape from The Netherlands Tension-free Vaginal Tape study. *Am J Obstet Gynecol* 193:45–52