Urodynamic Studies and Pelvic Floor Surgery

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The prevalence of pelvic organ prolapse (POP) varies greatly and is reported to be between 3% and 50% differing greatly when based on POP symptoms or vaginal examination [1]. Age is a well-established risk factor in the reported prevalence of POP [2]. With advancing age, the prevalence escalates dramatically, from 6% at age of 30 years to over 50% at the age of 80 years [3]. The increase in life expectancy observed in recent years will most probably be accompanied by a respective increase in the absolute numbers of women presenting with POP [4]. POP is a major health burden and is expected to continue being so in the upcoming future; hence, the importance of a safe and efficient treatment.

Stress urinary incontinence (SUI) may accompany symptoms of POP (overt SUI [OSUI]); however, in up to 20–30% of women who were continent prior to surgery, it may first appear following the correction of POP (i.e., OSUI) [5]. It has been suggested that the appearance of OUSI following surgery may be related to the relief of the urethral compression/kinking provided by anterior compartment repair [6].

In the current issue of the *Israel Medical Association Journal* (*IMAJ*), Kaldawy and associates [7] evaluated the role of perioperative urodynamic testing in the detection of OUSI in women undergoing prolapse repair surgery. Of 720 patients undergoing POP repair, 54 (7.5%) were detected for OUSI by urodynamic testing, only half of them (27, 3.75%) were detected during physical examination. All 54 women had a concomitant repair of their OUSI by midurethral sling (MUS), none of which had de novo USI or de novo obstructive voiding symptoms postoperatively. The Kaldawy study [7] highlighted two long standing debates in the field of urogynecology. The first dealt with the role of urodynamic testing in the routine preoperative evaluation prior to conventional surgical POP repair and the second concerned with the advantages of adding an anti-incontinent procedure during the primary POP repair to women with OUSI.

ROUTINE PREOPERATIVE URODYNAMIC STUDIES PRIOR TO UROGYNECOLOGICAL SURGERIES

The role of urodynamic studies (UDS) in the perioperative evaluation of uncomplicated OUSI have been previously studied. No major differences in patient management or treatment outcomes have been demonstrated regardless of UDS utilization [8]. However, in cases of POP without an OUSI, UDS utilization is debatable. The most updated published guidelines by the American Urologic Association and the Society for Urodynamics, Female Pelvic Medicine and Urogenital Reconstruction state that in patients with high-grade prolapse, a multichannel UDS may be used to assess cases of OUSI in women with lower urinary tract symptoms [7]. However, the balance between benefits and risks in this situation remains unclear [9]. Opponents of UDS claim that it is an invasive study and holds the potential for some complications (e.g., pain, irritation, urinary tract infection). Moreover, the examination may not be cost effective in many of the cases [10]. Those who favor preoperative USD state that it is an easy, efficient test with a negative predictive value of close to a 100% [11].

DO RESULTS OF UDS ALTER PATIENT MANAGEMENT?

Changing patient management following UDS findings is controversial. In a retrospective study, different indication for UDS were examined [12]. The authors concluded that, apart from detection of OUSI, other indications for performing preoperative UDS did not have a significant impact on management or counseling of patients. In an older retrospective study preoperative, UDS resulted in a minor change in patient management, and only 7% of patients diagnosed with OUSI had MUS placed during their POP repair [13].

PRIMARY CORRECTION OF OUSI

The difference that is seen between the studies in the percentage of patients treated surgically for OUSI could most probably be attributed to a difference in management approaches. These methods are known as the one-step procedure and the two-step procedure [14]. Those who favor the one-step approach claim that the incidence of postoperative de novo USI following POP repair reaches as high as 51% [15], which justifies its simultaneous repair and avoiding the need for re-operation. Previous studies have demonstrated that the addition of anti-incontinence surgery is not associated with

an increased risk for recurrent POP or voiding dysfunction [16,17]. In contrast, those who favor the two-step approach state that POP repair alone had a beneficial effect on OUSI in most cases [18] and that the number needed to treat to prevent one case of OUSI varies between 6 and 18 [16,19]. This result makes the surgery not cost effective. The proposed mechanism is that anterior vaginal repair and local healing around the bladder neck may lead to a colposuspention effect with correction of the OUSI [18]. Furthermore, additional anti-incontinence procedures might be associated with short- and long-term complications [16,17,19]. In the short term it may be associated with bladder perforation, vaginal perforation, groin and thigh pain, and urinary retention [17,19]. In the long term it may be associated with mesh exposure and complications, urinary tract infections, and voiding dysfunction [17,19].

CONCLUSIONS

Controversies seem to be the bread and butter of medicine, and not a single medical discipline is free from controversial issues. The detection of OUSI and its primary repair during conventional POP surgery had been a matter of debate and are a long way from being settled. Those who adopt the two-step procedure approach may as well exclude UDS in their routine preoperative assessment prior to conventional POP repair. However, those who would prefer to correct OUSI during the primary POP repair (i.e., one-step approach) should consider including UDS in their routine preoperative assessment.

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You have to hold your audience in writing to the very end – much more than in talking, when people have to be polite and listen to you.

Brenda Ueland (1891–1985), journalist, editor, freelance writer, and teacher of writing

One does not ask of one who suffers: What is your country and what is your religion? One merely says: You suffer, that is enough for me.

Louis Pasteur (1822–1895), French biologist, microbiologist, and chemist renowned for his discoveries of the principles of vaccination, microbial fermentation, and pasteurization