

## PRE-OPERATIVE URODYNAMIC STUDIES: IS THERE VALUE IN PREDICTING POST-OPERATIVE STRESS URINARY INCONTINENCE IN WOMEN UNDERGOING PROLAPSE SURGERY?

### Hypothesis / aims of study

Pelvic organ prolapse (POP) is a common condition affecting women worldwide. The prevalence of stage 3 – 4 prolapse is in the range of 2 – 11% according to large population studies. Of these women, 11% will have surgical correction of the POP. Urodynamic studies (UDS) have been suggested to be performed as part of the pre-operative work-up of patients undergoing prolapse surgery. Some women with POP have occult stress urinary incontinence (OSUI) and even if subjectively continent, have a higher incidence of developing de novo stress urinary incontinence (SUI) following prolapse repair. Urodynamic studies may be valuable if diagnosing SUI or OSUI results in the optimal treatment strategy. The aim of this study was to determine the predictive value of pre-operative UDS, with manual prolapse reduction, in identifying women with OSUI, likely to develop post-operative SUI.

### Study design, materials and methods

This was a retrospective cohort study, including all women who had prolapse surgery during the period January 2006 to December 2011. Patients were identified from past Urogynaecology theatre lists. Data collected included age, parity, body mass index (BMI), history of previous deliveries and birth trauma. With regards to previous surgery, we specifically looked at previous hysterectomy, prolapse surgery and incontinence procedures. Physical examination included pelvic organ prolapse quantification (POP-Q), evidence of SUI and prolapse stage. Patients received routine pre-operative UDS. Manual reduction of the prolapse was performed in the standing position, with a cough test at maximum bladder capacity. Patients demonstrating urodynamic SUI or OSUI were offered a concomitant anti-incontinence procedure. Post-operative follow-up data included symptoms of SUI and clinical evidence of SUI. Patients were followed up at 6 weeks post-operatively, with the invitation to return to the Urogynaecology clinic if there were any further problems.

### Results

One hundred and ninety nine patients booked for prolapse surgery were identified from theatre lists. 32 cases were excluded due to Urogynaecology clinic data not found. A further 36 were excluded as a result of no or incomplete urodynamic study data. One hundred and thirty one women who received pre-operative UDS with manual reduction of POP were finally included. The mean age of the patients was 57 (33-79), parity 3.6 (0-7) and body mass index (BMI) 32 (19-53). Ninety-one women had no urodynamic SUI. Of these, 20 women had evidence of OSUI. Of the 71 who had no SUI or OSUI (received prolapse surgery alone), 2 were lost to follow-up and 3 developed post-operative SUI symptoms, of which 1 had demonstrable SUI. This patient required an anti-incontinence procedure at a later stage.

The 20 women with OSUI were offered combined prolapse repair and anti-incontinence surgery. Sixteen patients had a concomitant anti-incontinence procedure and only one developed SUI symptoms post-operatively. This could not be demonstrated on examination and according to the patient, was not bothersome and she did not require any further anti-incontinence surgery. Four women had prolapse surgery alone and of these, 3 had post-operative SUI symptoms and 2 had demonstrable SUI. The 2 women with demonstrable SUI did not opt for further stress incontinence surgery at the time.

### Interpretation of results

The manual reduction test had a sensitivity of 50% (95% CI, 0.118-0.882) and a specificity of 98.5% (95% CI, 0.920-0.999). The positive predictive value was 75% (95% CI, 0.194-0.993), with a high negative predictive value of 96% (95% CI, 0.878-0.991). The final number of patients with OSUI was small (20) and only 4 had prolapse surgery alone, thus affecting the width of the confidence interval (CI) with regards to the sensitivity and the positive predictive value. This was a retrospective study with small numbers, affecting the true positive predictive value.

### Concluding message

Manual reduction of prolapse, at time of UDS, can identify those patients who are likely to remain continent following prolapse repair surgery. It can be a valuable tool in pre-operative counselling, especially in the patient requesting a concomitant anti-

incontinence procedure at time of prolapse repair. Further research with a randomised controlled trial is recommended to help determine the value of urodynamic studies and manual reduction in the patient with POP.

Disclosures

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