Jiun-Chyi Hwang **黃俊淇**
(Y16)

Evaluation of efficacy and safety of single-incision sling versus transobturator sling in women with stress incontinence and intrinsic sphincter deficiency

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Objective: To evaluate efficacy and safety of single-incision sling (SIS) versus transobturator sling (TOS) in women with urodynamic stress incontinence and intrinsic sphincter deficiency.

Materials and Methods: We evaluate patients who had urodynamic stress incontinence and intrinsic sphincter deficiency underwent SIS or TOS from 2011 to 2017. The primary outcomes were objective and subjective cure rate. Objective cure rate was defined as no stress urine leakage while comfortably full bladder. Subjective cure rate was determined by patient' s satisfaction. Quality of life was evaluated by valid questionnaires which included the short form of the Urogenital Distress Inventory (UDI-6), and the Incontinence Impact Questionnaire (IIQ-7). The secondary outcomes included surgical characteristics and postoperative adverse events were also analyzed.

Results: A total of 111 patients were reviewed. Among them, 39 underwent SIS with a median of 25-month follow up, while 72 underwent TOS with a median of 30-month follow up. For both groups, the scores of UDI-6, IIQ-7, and 1-hour pad test were all significantly improved after surgery (all $p<0.001$). The objective and subjective cure rate was comparable after SIS or TOS (objective cure: 72% vs. 76%, $p=0.559$; subjective cure: 79% vs. 83%, $p=0.297$). Similarly, the UDI-6 and IIQ-7 were not significant different after different slings ($p=0.761$ and 0.941, respectively). In terms of adverse events, there were no significantly different regarding different surgical procedures, except SIS had shorter surgery time (16.7 ± 9.3 vs. 27.3±12.4, $p=0.015$) and lower postoperative pain score (1.3±1.1 vs. 3.9±1.4, $p<0.001$).

Conclusions: SIS and TOS had similar surgical results in women with urodynamic stress incontinence and intrinsic sphincter deficiency. But SIS had advantages in shorter operation time and miner postoperative pain than TOS.

Yu-Hua Shen 沈玉華
(Y17)

Impact of intrinsic sphincter deficiency on mid-urethral sling outcomes

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Objectives: Our primary objective was to study outcomes of patients with intrinsic sphincter deficiency (ISD) following various mid-urethral slings (MUS) at 1-year. Our secondary objective was to delineate factors affecting success in these patients.

Methods: 688 patients who had MUS between January 2004 and April 2017 were reviewed retrospectively. 48 women were pre-operatively diagnosed with ISD. All completed urodynamic studies and validated quality-of-life (QOL) questionnaires at baseline and 1-year. Primary outcomes were objective and subjective cure of stress incontinence, defined as no involuntary urine leakage during filling cystometry and 1-hour pad test <2grams, and negative response to Urogenital Distress Inventory-6 Question 3. Ultrasound was performed to determine tape position, urethral mobility and kinking at 1-year.

Results: Women with ISD had significantly lower objective and subjective cure rates of 52.1% and 47.9% respectively, compared to an overall of 88.2% and 85.9%. QOL scores significantly improved in those with successful surgeries. The sling type did not make a difference. Univariate logistic regression identified reduced urethral mobility [OR 2.04 (1.18-3.53)], lower maximum urethral closure pressure (MUCP) [OR 1.58 (1.02-3.11)] and tape position [OR 3.82 (1.81-9.13)] to be associated with higher odds of failed slings for women with ISD.

Conclusions: Although there are good overall success in women undergoing MUS, those with ISD have significantly lower cure rates at 1-year. Factors related to failure include reduced urethral mobility, low MUCP and relative tape position further away from bladder neck. Optimal management of patients with ISD and reduced urethral mobility remains challenging.

Keywords: mid-urethral sling, outcomes, urethral closure pressure, urethral mobility

Chieh-Yu Chang **張介禹**
(Y18)

Changes in sexual function and vaginal topography using 3-Dimensional transperineal ultrasound in stress-incontinent women reated with Er: YAG vaginal laser

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Objectives: To assess the changes in sexual function and vaginal topography using 3-D transperineal ultrasound in stress-incontinent women treated with Er:YAG vaginal laser.

Methods: Two hundred and twenty women with stress urinary incontinence (SUI) treated with Er:YAG laser were recruited. Assessment before and 6 months after the treatment included vaginal topography using 3-D transperineal ultrasound and sexual function using female sexual function index questionnaire (FSFI).

Results: A total of 50 women with complete data showed that the symptomatic improvement was noted in 37 (74%) women. In the vaginal topography, the width and the cross-sectional area of vagina both decreased significantly after treatment. Nearly all of the domains of FSFI improved significantly after the vaginal laser treatment, except sexual desire.

Conclusions: 3-D transperineal ultrasound can be used to conduct vaginal topography. After Er:YAG vaginal laser treatment, decreased width and cross-sectional area in proximal, middle, and distal vagina were found in women with SUI. Besides, nearly all domains of FSFI improved after treatment, except sexual desire. It appears to have positive correlation between the objective ultrasound findings and subjective questionnaire outcomes.

Keywords: Vaginal laser; 3-D transperineal ultrasound; vaginal topography; stress urinary incontinence; sexual function.

Hsin-Mei Liu **劉馨鎂**
(Y19)

Predictors of cure and overactive bladder syndrome after mid-urethral sling procedure in women with stress urinary incontinence

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Objective: To predict the factors of cure and overactive bladder syndrome (OAB) after mid-urethral sling procedure (MUS) for women with stress urinary incontinence (SUI).

Materials and Methods: From January 2008 to July 2019, all consecutive women who received MUS for SUI in a tertiary referral center were reviewed. Multivariable Cox proportional hazard model or logistic regression analysis was used to assess the predictors.

Result: A total of 385 women underwent MUS. The probabilities of free of SUI at 1 year, 5 years, and 9 years were 90.4% (95% confidence interval [CI]=85.6-93.6%), 83.5% (95% CI=71.7-90.7%) and 75.9% (95% CI=54.5-88.2%), respectively. Multivariable regression analysis revealed that preoperative OAB (hazard ratio=2.50) and parity (hazard ratio=1.35) were independent predictors for persistent/recurrent SUI. Among 216 women with preoperative OAB, their OAB was resolved after surgery in 109 (50.5%) women; and among 169 women without preoperative OAB, twenty-five (14.8%) women developed de novo OAB (McNemar’ s test, p<0.0001). The probability of free of OAB at 1 and 5 years was 60.7% (95% CI=54.3-66.5%) and 49.8% (95% CI=40.5-58.5%), respectively. Preoperative OAB (hazard ratio=4.40) and small voided volume (dL, hazard ratio=0.82) were independent predictors for postoperative persistent/de novo OAB. In addition, six (1.6%) women had mesh extrusion. Parity (hazard ratio=2.08) was the sole independent predictor for mesh extrusion.

Conclusion: Preoperative OAB and parity were independent predictors for persistent/recurrent SUI. In addition, preoperative OAB and small voided volume were predictors for postoperative OAB. The above findings could serve as a guide for preoperative consultation of MUS.

Ting-Xuan Huang 黃亭瑄
(Y20)

Mid-Urethral Slings in Obese Women: Surgical Outcomes and Pre-Operative Predictors of Failure

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Objective: The primary objective is to evaluate surgical outcomes in obese patients with urodynamic stress incontinence (USI) treated with various midurethral slings (MUS) compared to normal weight and overweight patients. Secondary objective is to identify potential risk factors predicting MUS failure in obese patients.

Methods: A retrospective review of 688 medical records of women who underwent MUS surgeries between January 2004 and July 2017 was performed. Patients underwent standardized evaluations, including urodynamic studies (UDS), one-hour pad test, validated quality-of-life (QOL) questionnaires, Urogenital Distress Inventory 6 (UDI-6), and Incontinence Impact Questionnaire-7 (IIQ-7). Patients were categorized into normal weight (18.5– 24.9 kg/m2), overweight (25– 29.9 kg/m2), and obese (≥30 kg/m2) groups. Objective cure at 1-year was defined as no involuntary urine leakage during filling cystometry and a one-hour pad test < 2grams. Subjective cure was established by negative response to question 3 on UDI-6.

Results: Normal weight patients had 91.4% and 89.1% objective and subjective cure rates, respectively, compared to 87.5% and 86% in overweight patients, and 76% and 70.1% in obese patients at 1-year follow-up. This was no difference in surgical complications. Obese patients had significantly worse UDI-6 and IIQ-7 scores pre- and post-operatively compared to the other 2 groups. Risk factors in obese patients with failed MUS included age ≥ 66 years (OR 1.72, p=0.042), menopause (OR 4.77, p=0.011), previous prolapse surgery (OR 4.19, OR 0.002), diabetes mellitus (DM) (OR 2.34, p=0.037), and pre-operative diagnosis of intrinsic sphincter deficiency (ISD) (OR 4.86, p= 0.001).

Conclusion: Obese women surgically treated with MUS for USI had lower objective and subjective cure rates at 1-year follow-up, and worse incontinence-related QOL scores as compared to normal weight women. Other associated risk factors for sling failure in this group of patients include ≥ 66 years, DM, menopause, previous prolapse surgery and pre-operative ISD.

Chih-Ting Chang **張至婷**
(Y21)

Laparoscopic Long Mesh Surgery with Augmented Round Ligaments: A novel Uterine preservation procedure for Apical pelvic organ prolapse

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Purpose: The aim of our study was to assess whether Laparoscopic Organopexy with Non-mesh Genital Suspension (LONG' S) procedure is an effective, safe, and time-saving surgery.

Materials and Methods: Forty-eight consecutive women with main uterine prolapse stage II or greater defined by the POP quantification (POP-Q) staging system, were referred for LONG'S op at our hospitals. Eight women were excluded due to various reasons, the remaining 40 women were included for analysis in this study. Clinical evaluations before and 6 months after surgery included pelvic examination using the POP-Q system, multichannel urodynamic study, and a personal interview to evaluate the short forms of UDI-6, IIQ-7, and FSFI.

Results: After follow-up time of 6 to 30 months, there was a significant improvement at points Aa, Ba, C, Ap, Bp, and total vaginal length ($P < 0.01$; Wilcoxon signed rank test). The success rates for apical and anterior vaginal prolapse were 97.5% (39/40) and 92.5% (37/40), respectively.

Cconclusions: The results of our study suggested that LONG' S procedure is an effective, safe, and time-saving surgery with relatively low complications.