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(Y21)



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## Relationship between Q-Tip Test and Urethral Hypermobility on Perineal Ultrasound

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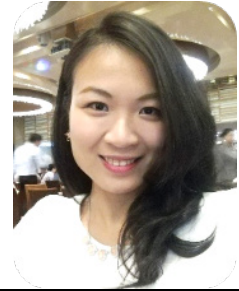
**Objective:** To assess the correlation between the overall rest– stress distance measured by transperineal ultrasound (TPUS) and Q-tip test angle in women with urodynamic stress incontinence (USI), and determine a cut-off value of rest– stress distance for predicting urethral hypermobility (UH).

**Methods:** Women with USI scheduled for mid-urethral sling surgery were retrospectively recruited. UH was defined as a Q-tip angle more than or equal to 30 degrees. Ultrasonic measurement of the overall rest– stress distance was defined as the linear distance of bladder-neck position change from resting status to maximal strain.

**Results:** Among the 132 enrolled women, the Pearson correlation coefficient between the overall rest– stress distance in TPUS and Q-tip test angle was 0.9104 (95% CI, 0.8758– 0.9357,  $p < 0.001$ ). In receiver-operating characteristic-curve analysis, a rest– stress distance of more than 13.3 mm was an optimal cut-off value to predict UH (sensitivity = 76.47%, specificity = 93.3%; area = 0.937, 95% confidence interval: 0.881– 0.972).

**Conclusions:** The overall rest– stress distance in TPUS correlated well with the Q-tip test angle, indicating that it can be an alternative method for the assessment of USI. A rest– stress distance of more than 13.3 mm was an optimal cut-off value to predict UH in women with USI.

*Yi-Ting Chen* 陳怡婷  
(Y22)



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**Management with bladder oversensitivity with platelet-rich-plasma (PRP) during pelvic reconstruction**

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**OBJECTIVE:** To assess the effectiveness of bladder injection with platelet-rich-plasma in bladder oversensitivity during pelvic reconstruction.

**METHODS:** We reviewed charts of all patients who underwent POP or USI surgery by Dr. Ting-Chen, Chang in our institution between January 2018 and December 2023, who had also diagnosed with moderate to severe overactive bladder (OABSS  $\geq 6$ ). All of the patients received bladder injection with PRP during operation.

We included patients who diagnosed with bladder oversensitivity (strong desire  $\leq 250$ ml in pre-operative urodynamic study). All of the patient received PRP bladder injection during operation. Post-operative urodynamic study was arranged in 2 months.

**RESULTS:** A total of 46 patients were included. All of them had questionnaires included OABSS, UDI-6, IIQ7 before and after treatment. Strong desire increased significantly after intra-operative bladder injection with PRP (p-value  $< 0.001$ ). Questionnaires revealed OABSS-1, OABSS-2, OABSS-T and UDI-6-2 score decreased after bladder injection with PRP.

**CONCLUSION:** Intra-operative bladder injection with platelet-rich-plasma during pelvic reconstruction seemed to have benefits in patients with bladder oversensitivity.

*Tzu-Ting Chen* 陳姿廷  
(Y23)



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**Skin sympathetic nerve activity as a potential biomarker for overactive bladder**

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**Objective:** Use neuECG, a novel method of recording skin electrical signals, to assess autonomic nervous function in healthy controls and patients with OAB before and after treatment.

**Materials and Methods:** The prospective sample included 52 participants: 23 patients newly diagnosed with OAB and 29 controls. Autonomic function was assessed in all participants in the morning using neuECG, which analyzed the average skin sympathetic nerve activity (aSKNA) and electrocardiogram simultaneously. All patients with OAB were administered antimuscarinics; urodynamic parameters were assessed before treatments; autonomic and bladder functions using validated questionnaires for OAB symptoms were evaluated before and after OAB treatment.

**Result:** Patients with OAB had significantly higher baseline aSKNA ( $p=0.003$ ), lower standard deviation of the normal-to-normal beat intervals, lower root mean square of the successive differences, lower high-frequency, and higher low-frequency than did controls. Baseline aSKNA had the highest value in predicting OAB (AUROC = 0.783,  $p < 0.001$ ). The aSKNA was negatively correlated with first desire and normal desire in urodynamic studies (both  $p=0.025$ ) and was significantly decreased after treatment at rest, stress, and recovery phases, as compared to those before treatment ( $p = 0.046, 0.017, \text{ and } 0.017$ , respectively).

**Conclusion:** Sympathetic activity increased significantly in patients with OAB compared to that in healthy controls, and decreased significantly post-treatment. Higher aSKNA is associated with decreased bladder volume at which voiding is desired. SKNA may be a potential biomarker for diagnosing OAB.

*Chieh-Yu Chang* 張介禹  
(Y24)



**Effect of High-Intensity Focused Electromagnetic (HIFEM) technology for the treatment of Female Stress Urinary Incontinence**

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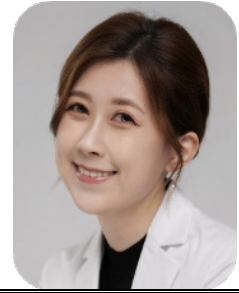
**Objective:** The aim of the study was to assess the effect of High-Intensity Focused Electromagnetic (HIFEM) technology in the treatment of female stress urinary incontinence (SUI).

**Materials and Method:** 20 women with SUI were delivered a treatment course with HIFEM technology. Patients attended 6 therapies scheduled twice a week. Validated questionnaires were assessed, including OABSS, UDI-6, IIQ-7, ICI-Q, and Female Sexual Function Index (FSFI). Data was collected pre-, post-treatment, at 3- and 6-month follow-up visits. Scores of questionnaires were calculated and statistically evaluated through t-test.

**Results:** Course of the treatment with the HIFEM technology significantly improved QoL of all women. This was demonstrated as 75% level of improvement in degree of incontinence according to the ICI-Q scores during 3-month follow-up. The average total FSFI scores increased significantly ( $p < 0.05$ ) during the 3-month follow-up. A significant improvement was observed in most domains of FSFI.

**Conclusion:** The results suggest that HIFEM technology is an efficacious therapy for treatment of SUI

*Yao-Yu Yang* 楊曜瑜  
(Y25)



**Comparison of Female Sexual Function following the TVT-O Sling System versus the Altis Single-Incision Sling System**

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**Objectives:** There is limited available data on sexual function after single incision sling (SIS) surgery. We conducted a comparison of sexual function six months postoperatively between patients who underwent SIS and those who underwent transobturator sling (TMUS) procedures for the treatment of stress urinary incontinence.

**Methods:** This retrospective, single-center study strategically incorporated the assessment of sexual function as a planned secondary objective. Women were enrolled in either Altis SIS or TVT-O TMUS procedures, with the primary focus being the comparison of efficacy and safety using a non-inferiority design over a 6-month period. Patient-reported outcomes related to sexual function were evaluated at both baseline and the 6-month mark, employing the Female Sexual Function Index (FSFI). Changes in sexual function were analyzed within and between groups.

**Results:** Baseline characteristics were effectively balanced through propensity score stratification (N=16 for SIS, N=24 for TMUS). The groups exhibited similarity in parity, body mass index, 1-hour pad test, past medical history, and concurrent surgeries performed. Although the age was slightly higher in the TVT-O group, the difference was not statistically significant. The entire follow-up duration was 6 months. There was no significant change in mean FSFI scores from baseline to 6 months for either group, encompassing sexual desire, sexual arousal, lubrication, and orgasm. However, the FSFI scores for the TVT-O group demonstrated an increase from baseline to 6 months in satisfaction (pre-op  $4.00 \pm 1.05$ , post-op 6 months  $4.90 \pm 0.73$ , P-value 0.03) and dyspareunia (pre-op  $4.35 \pm 1.38$ , post-op 6 months  $5.15 \pm 1.06$ , P-value 0.02).

**Conclusions:** These data show that mid-urethral sling surgery has no detrimental influence on sexual function in women with stress urinary incontinence. Additionally, the TVT-O group exhibits a slight advantage over the Altis group in terms of satisfaction and dyspareunia.

**Keywords:** Incontinence surgery, single Incision sling; transobturator sling; midurethral sling; stress urinary incontinence; dyspareunia; sexual function; sexual activity.

Yu-Jen Lai 賴昱蓁  
(Y26)



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## THE RELATIONSHIP BETWEEN VAGINAL MICROBIOTA AND CERVICAL CARCINOGENESIS PROCESS

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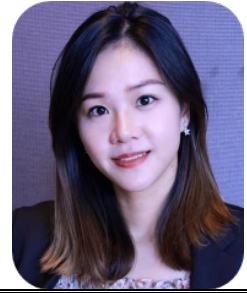
**Objective:** Persistent infection with high-risk human papillomavirus can lead to cervical dysplasia and cancer. Recently, the relationship between vaginal microbiota and cervical cancer or cervical dysplasia has been found. The aim of our study is to explore the vaginal microbiota, including the diversity and predominant species in different stage of cervical carcinogenesis process.

**Methods:** 109 vaginal swabs were collected from women, which were diagnosed with "normal" , "reactive changes" , "LSIL (Low grade squamous intraepithelial lesion)" , "HSIL (High grade squamous intraepithelial lesion)" and "cancer" by cytology. The bacteria species in each group were identified by 16s rRNA amplification then the sequences were examined and read by Microbial Genomics Module of QIAGEN CLC Genomics Workbench 20 (version 20.0.2). The alpha and beta diversity were also calculated.

**Results:** In total, 109 samples were analyzed. The alpha diversity of vaginal microbiome was significant higher in cancer ( $p < 0.02$ ) and HSIL ( $p < 0.05$ ) group, compared to normal group. The beta diversity is significant different between the normal group and LSIL group, so as between the normal group and HSIL group (both  $p < 0.05$ ). Besides, the amount of *Prevotella timonensis* is significantly higher in cancer ( $p < 0.001$ ) and HSIL ( $p < 0.01$ ) group.

**Conclusion:** The diversity of vaginal microbiota is associated with the different stage of cervical carcinogenesis process. The abundance of *Prevotella timonensis* may be associated with cervical cancer progression.

*Yi-Cih Ma* 馬翊慈  
(Y27)



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**Distribution pattern of human papilloma virus (HPV) genotyping between normal and abnormal cervical cytology and its carcinogenic risk-a single institution experience**

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**Objective:** We attempted to evaluate the prevalence rate of human papilloma virus (HPV) and its genotyping in normal and abnormal cervical cytology, and in different cytologic abnormalities.

**Materials and Methods:** We enrolled 583 patients who underwent our national DR. HPV Genotyping in Vitro Diagnostic Device (IVD) Kit during June 2020 to December 2022 in our hospital, which was done concurrently with or within three months of Papanicolaou (Pap) smear. Then analyzed epidemiological relationships of HPV typing between normal and abnormal cervical cytology also type-specific HPV prevalence in women of abnormal Pap test.

**Results:** There was higher HPV prevalence in abnormal than normal Pap group (66.67% vs. 24.65%,  $P < 0.001$ ), especially for type 16,45,51,52,58,59,62,66,70,84 (all  $P < 0.05$ ). HPV type 58 was most prevalent in abnormal cytology group followed by type 16 and type 52. In the subgroups of abnormal pap test, HPV positive rate was 0 %, 54.12 %, 85.29% , 88.46%, 100% for cytology report AGC, ASCUS, LSIL, HSIL and invasive carcinoma respectively. Totally four patient was reported to have invasive carcinoma in this study, among them, two had type 16 and two had type 58 infection.

**Conclusions:** Higher prevalence of HPV infection among abnormal cervical cytology, which correlated to their known risk of carcinogenesis in cervical neoplasia, especially for type 16 and 58 infection in this single hospital experience.

*Yun-Ting Gao* 高昀廷  
(Y28)



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**Association of Body Weight and Outcomes in Patients with Endometrial Cancer: A Single-Center Analysis**

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**Objective:** Due to concern regarding the rising number of endometrial cancer and curiosity about the body weight related to the prognosis of endometrial malignancy, this study aims to determine the clinical characteristic, including body weight, and outcomes in our hospital.

**Materials & Methods:** Patients with endometrial cancer treated between 2000 and 2017 in China Medical University Hospital were retrospectively reviewed. The clinical and pathological factors were analyzed for the relationships with patient outcome.

Patients' age and BMI at diagnosis, stage of disease, histologic type and grading, number of lymph node metastasis, operation method, adjuvant therapy and comorbidity were extracted from medical records.

**Results:** A total of 700 patients were included in this study. Among the various factors analyzed, age, blood loss during the operation, histology type, grading, lymph node metastases, adjuvant treatment, and low BMI were identified as significant prognostic factors for poor outcomes.

**Conclusion:** Managing a patient with endometrial cancer is an art. Beside other clinical factors, low BMI should also be aware in practice.



*Chun-Ting Fan* 范鈞婷  
(Y29)



**Minimally invasive surgery in early stage endometrial cancer in Taiwan**

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**Background:** Minimally invasive surgery has become standard for early stage endometrial cancer, showing non-inferior oncological outcomes and reduced operative morbidity when compared with open surgery.

**Methods:** We retrospectively included 1,773 patients with primary clinical stage 1 endometrial cancer in Taiwan from 2018 to 2020 who underwent a standard staging operation consisting of laparoscopic, robotic or laparotomy total hysterectomy and bilateral salpingo-oophorectomy for analyses. The demographic and pathologic parameters were recorded.

**Results:** From 2018 to 2020, a total of 1,773 patients were diagnosed with clinical stage 1 endometrial cancer and received standard staging operation in Taiwan. Among them, 960 (54.1%) patients received laparotomy and 813(45.9%) received laparoscopic or robotic surgery. There was no significant difference in the mean age or body mass index between the study groups. Patients treated with laparoscopic and robotic surgery were statistically more often to be diagnosed as endometrioid type (89.9% and 87% vs. 82.1%,  $p < 0.001$ ) and pathologic stage 1 (91.3% and 88% vs. 83.5%) compared with laparotomy group. The extent of regional lymph node involvement was significantly greater in the laparotomy group. Also the laparotomy group were more likely to receive adjuvant chemotherapy (19.1% vs. 9.9% and 12%,  $p < 0.001$ ) and radiation therapy (15.4% vs. 6.8% and 13.4%,  $p < 0.001$ ) compared with the minimally invasive group.

**Conclusion:** About half of primary clinical stage 1 endometrial cancer patients in Taiwan received minimally invasive surgery. Those who received minimally invasive surgery were associated with endometrioid type, less advanced stage, and received less aggressive adjuvant treatment.

*Chien-Chien Yu* 游千千  
(Y30)



**The physical, mechanical and biological properties of absorbable scaffold harvested with human amniotic fluid stem cells on rate model: An innovation for pelvic reconstruction surgery**

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**Objective:** The current practice of restoring the anatomical structure in the treatment of pelvic floor dysfunction includes implantation of synthetic sling, which carries complications. This study aimed to develop biological substitutes to improve tissue function using scaffolds as a support to the host cells, through formation of new tissue.

**Methods:** Human amniotic fluid stem cells (hAFSCs) were seeded on synthetic mesh-scaffold of AlloDerm Regenerative Tissue Matrix (RTM), Poly-DL-lactico-glycolic acid (PLGA) mesh (VICRYL) and Polydioxanone (PDS) meshes. In vitro study evaluates the metabolic activity of hAFSCs seeded mesh-scaffolds. In vivo study involving Sprague-Dawley rats was performed by assigning into 7 groups of sham control with fascia operation, AlloDerm implant, PDS implant, PLGA implant, AlloDerm harvest with hAFSC (AlloDerm-SC), PDS harvest with hAFSC (PDS-SC) and PLGS harvest with hAFSC (PGLA-SC).

**Result:** In vitro study reveals cell viability and proliferation of hAFSC on mesh scaffolds varies between meshes, with AlloDerm growing the fastest. The biomechanical properties of tissue-mesh-complex tension strength declined over time, showing highest tension strength on week-1, deteriorated similar to control group on week-12. All hAFSC-seeded mesh provides higher tension strength, compared to without. This study shed the potential of synthetic mesh as a scaffold for hAFSC for the surgical treatment of pelvic floor dysfunction.

**Conclusion:** AlloDerm (RTM), Poly-DL-lactico-glycolic acid mesh (VICRYL) and Polydioxanone (PDS) meshes commercially available synthetic mesh kits could serve as a role of scaffold for hAFSC, with AlloDerm scaffold being the most suitable for hAFSC cultivation. The increasing strength on the mat complex culture with hAFSC was not achieved on all 3 kits on week 12. Nevertheless, this study shed promising potential of tissue engineering in the future of surgical treatment for pelvic organ prolapse.