MP1-1:
ESSENTIAL THROMBOCYTHEMIA CONCOMITANT WITH TAKAYASU ARTERITIS: A CASE REPORT

Hui-Sheng Wang¹, Song-Chao Chu², Yung-Hsiang Hsu¹, Yu-Chih Chen¹,⁴, Jui-Chih Chang¹, Kuei-Ying Su¹
¹Department of Medicine, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan; ²Division of Hematology and Oncology, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan; ³Division of Pathology, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan; ⁴Division of Cardiology, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan; ⁵Division of Cardiovascular Surgery, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan; ⁶Division of Rheumatology and Immunology, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan

Objectives: Essential thrombocythemia (ET) is a myeloproliferative disorder majorly caused by gain-of-function mutations at Janus kinase 2 (JAK2). Clinical symptoms of ET come from the occlusion of small or large vessels due to atherosclerosis and thrombosis in nature. However, when vessel occlusion occurs in patients with ET, it is important to distinguish ET-induced thromboembolic events from other causes, such as vasculitis. In this case report, we present a patient with history of ET developed bilateral renal artery stenosis and abdominal aorta occlusion induced by Takayasu arteritis.

Materials and Methods: This 38-year-old woman has a history of ET (confirmed by genetic test showing JAK2 V617F mutation), and was treated with Hydroxyurea and Anagrelide since 2010 until her pregnancy in late 2016. During her pregnancy, gestational hypertension was diagnosed since second trimester and was treated with Amlodipine. Meanwhile, progressive bilateral limb claudication developed. For worsened leg numbness and claudication after delivery, she was then treated with Valsartan additional to Amlodipine for hypertension control. However, 2 weeks after Valsartan treatment, her urine output reduced progressively. Serum creatinine returned gradually to 1.3 mg/dL; bilateral leg claudication had completely relieved. The patient was discharged with oral prednisolone 20 mg (2 mg/kg/day) in dividing doses intravenously for Takayasu vasculitis. Serum creatinine returned gradually to 1.3 mg/dL; bilateral leg claudication had completely relieved. 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The collaborating team surveyed 3 As part of the A VERT (Acute Video-oculography for Vertigo in Emergency Rooms for Rapid Triage) trial (ClinicalTrials.gov #NCT02483429), we prospectively recruited consecutive patients with acute vertigo from three hospital EDs (2016-2017). Patients underwent multiple ocular motor tests (~28 per battery) using a portable, lightweight VOG device (ICS Impulse, Otometrics, Taastrup, Denmark). We compared automated nystagmus detection based on peak slow-phase velocity ≥ 10 deg/sec (Otosuite software v4.0) to human expert assessment of pathologic nystagmus by video review. We calculated test accuracy and classified artifacts.

Results: We reviewed 2,656 individual VOG tests in 101 patients (31 with nystagmus). Pathologic nystagmus was present per expert review in 4.1% of tests with automated detection sensitivity 95.2%, specificity 95.3%, positive predictive value 52.1%, negative predictive value 99.7%. Among 91 false-positive tests, 34% had physiologic “artifacts” (normal slow eye movements or end-gaze nystagmus); 49% had pupil-tracking artifacts (blinking, ptosis, pupil out-of-frame, eyelash/long-hair in frame); and 16% had non-classifiable artifacts. At the patient level, there were 1 false negatives and 24 false positives.

Conclusion: Automated nystagmus detection by VOG is both sensitive and specific. However, when used in ED patients with a low likelihood of nystagmus undergoing multi-test batteries, patients without any nystagmus are frequently misclassified as having nystagmus (36.4%). Human review of positive results may be necessary pending improved computer algorithms.

MP1-4:
SNP IMPUTATION IN GENOME-WIDE ASSOCIATION STUDY IDENTIFIES RBMS3 AS A NOVEL RISK GENE FOR FEMALE PRIMARY SJÖGREN SYNDROME

Chen-Hung Chen1, Hsiang-Cheng Chen2, Chi-Ching Chang3, Chung-Tei Chou4, I-Wen Song5, Chien-Hsiun Chen6, Yuh-Feng Lin7, Jer-Yuarn Wu8
1Division of Allergy, Immunology and Rheumatology, Taipei Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, New Taipei, Taiwan; 2Division of Allergy, Immunology and Rheumatology, Tri-Service General Hospital, Taipei, Taiwan; 3Division of Allergy, Immunology and Rheumatology, Taipei Medical University Hospital, Taipei, Taiwan; 4Division of Allergy, Immunology and Rheumatology, Taipei Veterans General Hospital, Taipei, Taiwan; 5National Center for Genome Medicine, Institute of Biomedical Sciences, Academia Sinica, Taipei, Taiwan; 6Graduate Institute of Clinical Medicine, Taipei Medical University, Taipei, Taiwan

Objective: Previously we performed genome-wide association study (GWAS) by using total 420 female primary Sjögren syndrome (PSS) and 14,432 control subjects. We identified rs117026326 on GTF2F1 with GWAS significance (P = 1.10 × 10⁻⁵) and rs13079920 on RBMS3 with suggestive significance (P = 2.90 × 10⁻³) associating with PSS in women. The SNP association of RBMS3 was further evidenced by imputation.

Materials and Methods: All subjects in this study were Han Chinese population residing in Taiwan. Untyped SNPs were imputed by IMPUTE2 using 1000 Genomes reference panel.
SHAPEIT method was used in pre-phasing step to build haplotypes inferences and speed up the imputation procedure. The uncertainty of imputed genotypes determined by likelihood score test in SNPTST v2 was performed. Additive model was also used in frequency association test. The top imputed SNP were further validated by direct genotyping and confirmed by an independent replication cohort of 162 female PSS patients and data of 500 controls from Taiwan Biobank.

Results: Our imputation study demonstrated a strong association within one LD with GWAS identified rs13079920 on RBMS3 with PSS in women. The strongest associated SNP in imputation, rs13072846, was further validated by TaqMan direct genotyping in 215 female cases and 1444 female controls included in discovery GWAS and the consistent rate was 99.64%. The association was further replicated with a P value of \(8.12 \times 10^{-3}\) and after combined with initial imputation stage, the \(P\) value reached \(1.78 \times 10^{-4}\).

Conclusion: These data supported the association between \(RBMS3\) and PSS in women.

MP1-5:
THE EFFECT OF MODERATE-INTENSITY AEROBIC EXERCISE TRAINING ON WOMEN WITH SYSTEMIC LUPUS ERYTHEMATOSUS

Victoria P Y Kao1,2, Chai-Sheng Pai1, Huei-Jhen Wen1, Yu-Jen Pan1, Shih-Tzu Tsai1, Kuei-Ying Su1,2
1Division of Rheumatology and Immunology, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan; 2School of Medicine, Tzu Chi University, Hualien, Taiwan

Objective: Systemic lupus erythematosus (SLE) is a systemic autoimmune disease characterized by multi-organ injury and inflammation. Although exercise has become an adjuvant therapy for other rheumatic diseases such as ankylosing spondylitis and rheumatoid arthritis, it is still unclear whether regular exercise worsens inflammatory status and disease activities in SLE patients. This study aims to survey the influence of chronic moderate-intensity aerobic exercise training on women with SLE.

Materials and Methods: Female SLE patients without regular exercise were screened at outpatient clinic in Hualien Tzu Chi Hospital, and were recruited into this project. Patients were allocated non-randomized, based on patients’ willingness, into either exercise or control group. Patients in exercise group undergo a 12-week course of home-based, moderate-intensity aerobic exercise, while patients in the control group remain their usual sedentary lifestyle. Patients of the control group, after completion their post-test, are allowed to enter the exercise group. Exercise program includes warm-up session, 4 sets (about 30 minutes long) of moderate-intensity exercise session, stretching session, and a final relaxation session. Participants conduct this exercise program 5 days per week and report to us their maximum heart rates. Prior and post the 12-week course of intervention, we evaluate patients’ body mass index (BMI), 2-km brisk walking test for cardiopulmonary function, SLE disease activity index (SLEDAI) via SELENA-SLEDAI, EEG expression for executive control test, body composition by dual-energy X-ray absorptiometry (DXA), routine blood tests, as well as pro- and anti-inflammatory cytokines by ELISA. Statistical analysis is performed using paired student’s t-test. Results are presented as mean ± SD.

Results: Total 34 SLE patients were enrolled; each group includes 17 SLE patients. Demographic data of the 34 patients showed that, in control and exercise groups respectively, the mean age was 38.11 ± 12.28 years and 40.88 ± 11.82 years, BMI 23.10 ± 4.30 kg/m² and 23.94 ± 6.92 kg/m², percentage of fat in total body mass 34.87 ± 6.90% and 34.79 ± 5.36%, and SLEDAI scores 5.07 ± 5.93 and 4.29 ± 4.69. At the time of abstract submission, 26 patients have completed both pre-test and post-test and the results from which were analyzed. In the exercise group, the required time of 2-km brisk walking decreased significantly after the 12-week intervention (pre-test: 19.96 ± 2.18 min, post-test: 19.19 ± 2.31 min, \(p = 0.002\), \(n = 13\)), while those in the control group showed no difference (pre-test: 19.19 ± 1.58, post-test: 19.02 ± 1.74, \(p = 0.519\), \(n = 13\)). SLEDAI scores of the exercise group showed a down-trend after exercise intervention (pre-test: 3.92 ± 4.06, post-test: 2.67 ± 2.61, \(p = 0.159\)), whereas those of the control group showed an up-trend after the experiment (pre-test: 5.31 ± 6.10, post-test: 6.38 ± 6.16, \(p = 0.063\)). Serum levels of anti-dsDNA antibodies decreased in the exercise group (pre-test: 24.24 ± 32.80 IU/mL, post-test: 21.18 ± 26.86 IU/mL, \(p = 0.083\)), while the control group had an up-trend after the experiment (pre-test: 18.24 ± 22.68, post-test: 22.28 ± 35.66, \(p = 0.734\)). There were no obvious differences between pre-test and post-test in the following parameters: BMI, weight, percentages of lean and fat body mass, complete blood counts, ALT, AST, creatinine, erythrocyte sedimentation rate, C3, and C4 regardless of exercise intervention.

Conclusions: Our preliminary findings suggest that the chronic, 12-week moderate-intensity aerobic exercise training improves SLE patients’ cardiopulmonary capacity and does not induce their disease flare.

MP1-6:
THE COGNITION, ATTITUDE AND BEHAVIOR OF THE NURSING AND MANAGER TOWARD THE INFECTION CONTROL OF LONG TERM CARE FACILITY IN TAIWAN

Shu-Ting Chuang1, Mei-Fang Chang2, Yu-Ping Ho2, Sou-Hsin Chien1
1Office of Superintendent, Taichung Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Taichung, Taiwan; 2Department of Nursing, Taichung Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Taichung, Taiwan

Objective: With more aged population increasing rapidly and the demand the care of long term care facilities (LTCFs) is increasing. Infection issue in LTCFs should be paid more attention. Yet, in Taiwan, there is still lack of study of the cognition, attitude and behavior of the nursing staff and the supervisors toward the infection control of LTCFs. The study design will be focus on how impact the cognition, attitude and behavior of the nursing staffs and supervisor toward the infection control of LTCFs.

Materials and Methods: The research will employ cross-section questionnaire survey. Based on the characteristics of the current domestic LTCFs, we decide the quantities of the
LTCFs and the number of nursing staffs to be studied. We make research through structural questionnaire and we collect back totally 304 questionnaires. We utilize SPSS 19.0 version to process the data statistics and analysis, and including descriptive statistics and inferential statistics.

**Results:** The results of research show that the integrated cognition toward infection prevention and control process is 3.42 points (the top mark is 4 points), and the integrated cognition toward the importance of infection prevention control is 4.65 points (the top mark is 5 points). We find out that there is no big difference between the nursing staffs and supervisor of nursing home and LTCFs. As for the attitude toward infection prevention enforcement, the supervisor and nursing staff of the nursing home feel more important in many aspects than those personnel in LTCFs. We need to do more advance research to find out the differences.

**Conclusions:** The results of research show that there are high associativity between the integrated cognition toward infection prevention and control process. The length of service and whether such nursing staffs or supervisor is charge of the institute will influence their cognitions, attitudes and behaviors. The results can be references for the policy set-up and enforcement of infection prevention of LTCFs.

**MP1-7:**

**THREE CASES OF β-HEMOLYTIC GROUP G STREPTOCOCCI-RELATED SEPSIS**

Sy-Yeu Yen1, Lih-Shinn Wang2, Soon-Hian Teh2, En-Ting Chang3, Chiu-Huang Kuo4, Cheng-Huan Peng5, Yung-Hsiang Hsu5, Jen-Jer Hsieh6, Huai-Ren Chang2

1School of Medicine, Tzu Chi University, Hualien, Taiwan; 2Division of Infectious Diseases, Department of Internal Medicine, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan; 3Division of Chest, Department of Internal Medicine, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan; 4Division of Orthopedics, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan; 5Division of Hematology, Department of Internal Medicine, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan; 6Division of Cardiology, Department of Internal Medicine, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan

Objective: β-hemolytic Group G streptococci (GGS) are normal microbial flora of human upper respiratory tract, gastrointestinal tract, female genital tract, and skin colonies. However, invasive infection of GGS may be harmful, such as bacteremia, septic arthritis, osteomyelitis, meningitis, endocarditis, etc. Here we present three cases of GGS-related sepsis with different source of implantation.

Materials and Methods: The first case is a 74-year-old women with coronary artery disease after coronary artery bypass surgery and subclavian pacemaker implantation. She was sent to our emergency department (ED) due to having a fever of 38.5°C with shaking chills for 3 days, and blood cultures grew GGS. Vegetation was found by Doppler cardiac echo. The second case is a 50-year-old woman with mitral valve prolapse underwent 29 mm Mosaic valve replacement. Similarly, she visited for a fever that lasted for one day. Grade III systolic murmur at left lower sternal border was heard upon physical examination. Blood culture also grew GGS, but no vegetations were seen. Possible IE was considered. The third case was a 46-year-old man with repeating implant failure in left knee and underwent total knee replacement one year prior. This time he visited ED for a new episode of septic arthritis with a fever of 39°C and swollen, reddish left knee joint. Pus culture showed GGS too.

Results: These three cases all used penicillin G to treat GGS, case 1 and 2 combined with other antibiotics, such as levofloxacin and flomoxef sodium (Flumarin). The symptoms relived subsequently and no fever was noted. The first and second cases were discharged in stable condition within 2 weeks and arranged follow up at cardiology outpatient department. The third case underwent arthroscopic debridement, in which no pus but severe synovitis and inflammatory change was found. Pathology revealed acute suppurative inflammation in left knee joint. He was treated with penicillin G for 6 weeks afterwards, and was discharged with clean surgical wound and stable condition.

Conclusion: GGS-related sepsis is a critical condition with unspecified symptoms including fever and chills. The risk factor in common are implantation of non-autografts in our cases of two infective endocarditis and one septic arthritis. Penicillin G is an effective treatment option in our experience.

**MP1-8:**

**ASSOCIATION OF VEGETARIAN DIET AND CHRONIC KIDNEY DISEASE – A COMMUNITY DATABASE ANALYSIS**

Hao-Wen Liu1, Jia-Sin Liu2, Ko-Lin Kuo2

1Division of Family Medicine, Taipei Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, New Taipei, Taiwan; 2Division of Nephrology, Taipei Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, New Taipei, Taiwan

Objective: Chronic kidney disease (CKD) and its complications are major public health issues globally. The vegetarian diet is associated with a more favorable profile of metabolic risk factors and lower blood pressure but if the protective effect in CKD is still unknown. We aim to assess the association between vegetarian diet and CKD.

Materials and Methods: A cross-sectional study was based on subjects who received physical checkups at the Taipei Tzu Chi Hospital from September 5, 2005, to December 31, 2016. All subjects completed a questionnaire about their demographics, medical history, and life-styles. Physical examinations and blood chemistry tests were collected. The diet patterns categorized into 2 vegetarian dietary patterns (vegan, ovo-lacto vegetarian), and omnivore dietary pattern. CKD was defined as an estimated GFR < 60 mL/min/1.73 m² or the presence of proteinuria. We subsequently evaluated the association between vegetarian diets and CKD prevalence using multivariate analysis.

Results: The study was including 55,113 subjects. The prevalence of CKD for the entire group was 16.9 %. CKD was significantly less common in the vegans groups compared with the omnivore group (14.8 % vs. 16.2 %) (P <0.001). Step-wise logistic regression revealed that an vegetarian diets including vegan and ovo-lacto vegetarian diet were possible protective factors (odds ratio = 0.87 (0.77-0.99), P =0.041; 0.84 (0.78-0.90), P <0.001).
Conclusions: The study findings showed a strong negative association between vegetarian diet and prevalence of CKD. If such associations are causal, vegetarian diets could be helpful for lower CKD occurrence.

**MP1-9:**
THE RISK OF READMISSION FOR PATIENTS WITH SCHIZOPHRENIA UNDERGOING COMPULSORY ADMISSION: A 7-YEAR POPULATION-BASED COHORT STUDY
Ching-En Lin1,2, Chi-Hsiang Chun1,4, Li-Fen Chen1,6, Pei-Cih Chen1, Huang-Yi Cheng2, Wu-Chien Chien1,4,8
1Department of Psychiatry, Taipei Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, New Taipei, Taiwan; 2School of Medicine, Tzu Chi University, Hualien, Taiwan; 3Department of Medical Research, Tri-Service General Hospital, Taipei, Taiwan; 4School of Public Health, National Defense Medical Centre, Taipei, Taiwan; 5School of Medicine, National Defense Medical Center; Taipei, Taiwan; 6Department of Psychiatry, Hualien Armed Forces General Hospital, Hualien, Taiwan; 7Department of Nursing, Taipei Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, New Taipei, Taiwan; 8Graduate Institute of Life Science, National Defense Medical Center, Taipei, Taiwan

Objective: The aim of this study was to analyze and compare the risks of psychiatric readmission between patients with schizophrenia undergoing compulsory admission (CA) and voluntary admission (VA) during the period of 2007–2013, and to determine putative risk factors for psychiatric readmission.

Materials and Methods: We conducted a 7-year population-based cohort study of 2,038 schizophrenic inpatients in their first CA, matched with 8,152 schizophrenic controls in their first VA.

Results: During the follow-up period, 1,204 and 3,806 readmissions were observed in the CA and VA groups, respectively. CA (adjusted hazard ratio [AHR] = 1.765; 95% confidence interval [CI]: 1.389–2.243; p < 0.001) was found to be associated with increased risk for psychiatric readmission compared to VA. In stratified analyses, the CA was associated with increased risk of subsequent compulsory readmission (AHR = 1.307; 95% CI: 1.029–1.661; p < 0.001) and subsequent voluntary readmission (AHR = 1.801; 95% CI: 1.417–2.289; p < 0.001). Stratified by different LOS groups, the 1st CA was associated with increased risk of subsequent psychiatric readmission in all different LOS groups Kaplan-Meier survival curves showed that the cumulative incidence rate of psychiatric readmission was significantly higher for inpatients with CA than those with VA (log-rank test, p < 0.001).

Conclusions: CA was associated with subsequent psychiatric readmission, compulsory readmission and voluntary readmission. Clinicians may need to focus on patients undergoing CA to reduce subsequent readmissions.

**MP1-10:**
LOW URINARY TRACT PROBLEMS, BLADDER MANAGEMENT RELATED SELF-EFFICACY AMONG SPINAL CORD-INJURED PATIENTS-A CORRELATIONAL STUDY
Yen-Jen Lee1, Chuan-Hsiu Tsai1,2, Hann-Chorng Kuo1,4

Objective: Patients with spinal cord injury may suffer from a variety of lower urinary tract symptoms due to nerve damages. If the problems are not controlled properly, they will often lead to complications such as infection and impaired renal function. This study aims to investigate lower urinary tract problems and self-efficacy related to bladder management among Taiwan’s patients with spinal cord injury.

Materials and Methods: Cross-sectional survey was conducted. Spinal cord injured patients who regularly followed up at urologic OPD were recruited. Clinical data were derived from a retrospective clinic medical record review and prospective survey including patient demographics, incontinence impact and self-efficacy related to bladder management.

Results: 116 cases were recruited and the average age is 43 ± 13.73 years. Among the participants, 91 (78.44%) of them are male and mostly unmarried (60.34%). The injury parts are mostly cervical vertebra (48, 41.37%); most of them are confined to wheelchairs (89, 76.72%); more completely damaged patients (63, 54.31%); and only 42 (36.20%) participants are independent in most daily activities. Participants reported higher Urinary Catheter Self-efficacy (CSE) than Urinating Behavior Self-efficacy (UBSE), scoring 5.33 ± 3.28 and 2.94 ± 2.85 respectively the occurrence rate of urinary tract infection among participants over the past year is 59% and is still high among participants who return to clinic routinely, with 48% occurrence rate. The results of inferential statistics reported significant differences between different ages, careers and educational degrees in response to CSE and UBSE (p < 0.05). Self-efficacy plays a direct medium in the relationship between daily activities and urinary tract infection. Self-efficacy was revealed to be significant predictor of urinary tract infection (β = 0.34, p = 0.03).

Conclusions: The results of the study show that patients with spinal cord injury have lower scores in urinary CSE, Self-efficacy will directly influence the lower urinary tract problems. Therefore, Effective clinical education of self-care behaviors should pay more attention on their self-efficacy. Including urinary catheter self-efficacy questionnaire as part of the routine assessment could enhance participants’ treatment outcome. Continuous keep following on patients urinate behaviors could further enhancing lower urinary tract health.

**Moderated Poster-2**

**MP2-1:**
A SURVEY OF TRADITIONAL CHINESE MEDICINE USE AMONG RHEUMATOID ARTHRITIS PATIENTS: A CLAIM DATA-BASED COHORT STUDY
Tzun-Yi Tsai1, Chia-Chou Yeh2, Ming-Chi Lu3

1Department of Nursing, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan; 2Department of Nursing, Tzu Chi University, Hualien, Taiwan; 3Department of Urology, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan; 4School of Medicine, Tzu Chi University, Hualien, Taiwan
Objective: Traditional Chinese Medicine (TCM) is commonly used for symptom relief in patients with chronic diseases. Nevertheless, large-scale surveys focusing on the utilization of TCM among patients with rheumatoid arthritis (RA) are limited, especially in Taiwan, where TCM is highly popular. This cohort study aimed to describe the utilization of TCM and determine the factors related to TCM usage among RA patients.

Materials and Methods: A national health insurance database was used to identify 6532 newly diagnosed RA patients aged between 20 and 70 years, together with 12246 subjects without RA matched by sex, age, and index year between 2000 and 2010. Incidence density of TCM use and its related factors was calculated by the Poisson regression model.

Results: Findings indicated that RA patients experienced higher incidence density of TCM use than non-RA patients, with an adjusted incidence density ratio of 1.30 (95% confidence interval: 1.21-1.36). Multivariante analysis showed that RA patients who were female, young, had high monthly income, high Charlson-Deyo comorbidity index scores, and lived in the highly urbanized area with high TCM density were more likely to use TCM services. The top three reasons for seeking TCM services were diseases of the musculoskeletal system and connective tissue, the respiratory system, and the digestive system.

Conclusions: The findings allow healthcare providers to identify the pattern of TCM use and characterize the factors that affect TCM utilization. Further research is required to fully address the efficiency and safety of TCM in treating RA patients.

MP2-3:
ENDOPLASMIC RETICULUM PROTEOSTASIS DISTURBANCE MEDIATES NEURONAL INJURY DURING ACUTE PHASE OF INTRACEREBRAL HEMORRHAGE IN RATS

Hock-Kean Liew1, Peter Bor-Chian Lin1, Hsiao-Chi Yu1, Hsiao-Fen Peng1, Hsin-Ru Liu1, Wei-Fen Hu1, Hui-I Yang1, Po-Kai Wang1, Po-Kang Chen1, Andy Po-Yi Tsai1, Cheng-Yoong Pang1, Tsung-Ying Chen1,2

1Department of Medical Research, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan;
2Department of Anesthesiology, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan;

Objective: Endoplasmic reticulum (ER) stress triggered-apoptosis, abnormal protein accumulation and aggregation might play important role in many neurological disorders leading to brain damage consequently. However, the role of ER proteostasis in ICH injury has not been reported yet.

Materials and Methods: In rats, ICH was induced by intrastriatal infusion of collagenase VII-S. At time post-ICH, 0, 3, 6, 24, and 72 hours, brain samples were collected and analyzed for the measurement of hematoma volume, the content of the oxidative stress, the level of the total ubiquitin, the proteasomal activity, the protein aggregation, molecular biological and histological studies.

Results: During acute phase of ICH rat models, excessive oxidative stress and ubiquitin protein accumulation accompanying increased proteasome activity as well as abnormal protein aggregation were observed. The model indicated that the ER proteostasis disturbances can lead to the neuronal cell death. The ER proteostasis disturbances caused by ICH-induced ER stress is localized around the perihematoma area. The degradation of the GRP78 protein, which is associated with the severity of the ICH-induced brain injury, was rapidly increased in the ipsilateral striatal at 3 hours post-ICH, and gradually restored to the basal level at 24 hours post-ICH. The decreased GRP78 protein triggered the expression of pro-apoptotic CHOP protein through S-XBP-1 & ATF4 signal transduction pathway. In addition, the pro-apoptotic CHOP protein expression induced by ICH was observed within neuron, microglia and vascular endothelial cells via the immninhoistochemical staining and TUNEL assay. The data suggested that the ER
proteostasis disturbances may participated in the pathogenesis of neuroinflammation, brain edema/BBB disruption and neuronal cell death during the acute ICH phase.

**Conclusion:** At the acute ICH phase, increased pro-apoptotic CHOP protein expression and the decreased GRP78 protein are correlated with the severity of ICH injury; therefore, GRP78 protein might be one of the clinical potential drug targets in reducing ICH-induced brain injury.

**MP2-4:**
**ANTI-TUMOR AND RADIOSENSITIZATION EFFECTS OF N-BUTYLIDENEPHTHALIDE ON HUMAN BREAST CANCER CELLS**

Yi-Ju Su¹, Kuan-Fu Liao², Sheng-Chun Chiu³

¹Department of Radiation Oncology, Taichung Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Taichung, Taiwan; ²Department of Internal Medicine, Taichung Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Taichung, Taiwan; ³Department of Research, Taichung Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Taichung, Taiwan

**Objective:** This study aims to investigate the cytotoxic and radiosensitizing effect of n-butylidenephthalide (BP) and the underlying mechanism of action in human breast cancer cells.

**Materials and Methods:** The anti-proliferative effect of BP on human breast cancer cells was determined by MTT assay. BP induced apoptosis in breast cancer were evaluated by TUNEL assay and western blot. The anti-metastatic effects of BP were evaluated by wound healing and the transwell assays.

**Results:** BP induces apoptosis in breast cancer cells, which was revealed by the TUNEL assay; the activation of caspase-9 and PARP was detected by western blot. In addition, BP-induced G2/M arrest was examined by flow cytometry and the expression levels of the G2/M regulatory protein were detected by western blot. BP also suppresses the migration and invasion of breast cancer cells, which was tested by wound healing and the matrigel invasion assay; the involvement of EMT-related gene expressions was detected by real-time PCR. Furthermore, BP enhanced the radiosensitivity of breast cancer cells, which was measured by the colony formation assay and comet assay, where the foci of γ-H2AX after radiation significantly increased in BP pretreated cells and was evidenced by immunocytochemistry staining and western blot. The homologous recombination (HR) repair protein Rad51 was down-regulated after BP pretreatment.

**Conclusions:** These results indicate that BP might be a potential chemotherapeutic and radiosensitizing agent for breast cancer therapy.

**MP2-5:**
**USE OF GOOGLE CLASSROOM TO ENHANCE PHARMACY PRACTICE EDUCATION ONLINE**

Hui-Hsia Hsieh¹, Chi-Hao Hung¹, Tien-Yuan Wu¹², Chi-Hua Chen¹

¹Department of Pharmacy, Taichung Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Taichung, Taiwan; ²Department of Pharmacology, School of Medicine, Tzu Chi University, Hualien, Taiwan

**Objective:** The current online pharmacy educational platform in our hospital has several disadvantages and limitations, including lack of real-time feedback function, inefficient management, and lack of self-learning and flipped classroom systems. To address these issues, we introduced Google Classroom as an alternative platform to enhance pharmacy educators’ work. The platform helped teachers implement flipped classrooms, keep classes organized, and improve communication with students.

**Materials and Methods:** The Taichung Tzu Chi Hospital started to use Google classroom as a new online tool for pharmacy education from September 2017. More than 14 users consisting of pharmacy teachers and trainees participated in the trial of the new online tool. We evaluated the costs and benefits of the trial and analyzed user satisfactions through questionnaires.

**Results:** The cost of Google Classroom system, including Google Drive annual fee and wages for a partial workload administrator, was NT$53,300/year. However, the online educational platform reduces the time required for system development and the associated costs. Moreover, the online tools enhanced the trainees’ learning interest and teachers’ instructional effectiveness. Therefore, the total reduced costs were six million Taiwan dollars. The user satisfaction score was 91% in total. Overall, the use of Google Classroom App increased real-time feedback and evaluation. As an environment-friendly system, it also reduced the waste of paper. The trainers uploaded the updated pharmacy and medical information and resources immediately. The integrative online medical resources appeared to have maximized the benefits of medical and pharmacy education.

**Conclusions:** Teaching in the 21st century means teaching 21st generation students. It means helping and providing new knowledge and skills for students to learn by themselves. Therefore, teachers must be very open-minded to the new technology to ensure the best teaching and learning outcomes in the virtual classroom. Online educational platform provides a vital chance to promote blended learning and professional development.

**MP2-6:**
**THE LONG-TERM EFFECTIVENESS OF CASE MANAGEMENT FOR RHEUMATOID ARTHRITIS PATIENTS IN TAIWAN**

Miao-Chia Lin¹, Ming-Chi Lu², Tzung-Yi Tsai³

¹Department of Nursing, Dalin Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Chiayi, Taiwan; ²Division of Allergy, Immunology and Rheumatology, Dalin Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Chiayi, Taiwan; ³Department of Medical Research, Dalin Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Chiayi, Taiwan

**Objective:** Case management (CM) has been recommended as a way of inspiring measurable changes in individual behaviors and improving clinical outcomes for patients with chronic diseases. However, the information on its effectiveness for Chinese patients with rheumatoid arthritis (RA) is limited. This study aimed to determine the long-term effect of CM for Taiwanese RA patients.

**Materials and Methods:** A quasi-experimental research design using convenience sampling and non-random group assignment was applied to consecutively recruit 96 RA...
This cross-sectional study used a sample of patients with heart failure (HF); however, the patient’s psychological, social, and judgment of the HF diagnosis to support their adaptation process. A review of medical records and structured questionnaires yielded data about patient demographics and disease characteristics, and included Chinese version of the Arthritis Self-Efficacy Scale (ASES) and Taiwanese Depression Questionnaire (TDQ). A comparison of CM effects at three times (before CM / T₀, three days after CM / T₁, and six months after CM / T₂) was made using generalized estimating equations (GEEs).

**Results:** After adjusting for age, disease duration and maturation effect, CM was found to significantly reduce the depressive level of RA patients as compared to the control group, irrespective of T₁ or T₂, yielding the B value of -4.8 and -11.21, respectively. We also noted that CM did enhance the self-care efficacy in the experiment group compared to that in the control group. The positive effect was further maintained for six months after CM (p < 0.01).

**Conclusions:** This study supported the long-term effectiveness of CM for RA patients, which may be a reference in facilitating the provision of appropriate interventions.

**MP2-7: ACCEPTANCE OF DISABILITY AND ITS PREDICTORS AMONG PATIENTS WITH HEART FAILURE: A HOSPITAL-BASED STUDY IN TAIWAN**

I-Yu Hsiao¹, Tin-Kwang Lin², Tzung-Yi Tsai³
¹Department of Nursing, Dalin Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Chiayi, Taiwan; ²Department of Cardiology, Dalin Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Chiayi, Taiwan; ³Department of Medical Research, Dalin Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Chiayi, Taiwan

**Objective:** Modern medicine has increased the survival rate for patients with heart failure (HF); however, the patient’s psychological, social, and judgment of the HF diagnosis to support their adaptation process. This study aimed to investigate patients’ acceptance of disability (AOD) and its predictors in AF patients.

**Materials and Methods:** This cross-sectional study used a purposeful sampling method to recruit 70 AF patients from a hospital in southern Taiwan. A structured questionnaire gathered data on respondent demographics and disease characteristics, and included the Chinese version of the AOD Scale-Revised. Factors associated with AOD were examined by a multiple linear regression analysis.

**Results:** A total of 70 patients with HF with a mean age of 57.93 years (standard deviation [SD] = 12.11) were recruited during the study period. The mean AOD score among them was 81.43 (SD = 9.02), which indicated a moderate level of disease acceptance (range, 32-128). Our findings showed that patients who had more depressive symptoms, lower household income, and lower disease duration reported lower levels of disability acceptance. These factors accounted for 19.2% of the variance in AOD among participants.

**Conclusions:** The findings are beneficial to healthcare providers by identifying those HF patients with predisposition of having lower disability acceptance, which could then facilitate the provision of appropriate rehabilitation interventions after the diagnosis of AF to support their adaptation process.

**MP2-8: A STUDY ON DIABETES SYMPTOMS AND SELF-CARE AMONG PATIENTS WITH TYPE 2 DIABETES**

Shu-Chuan Chang¹, Yi-Ying Chiou²
¹Department of Nursing, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation and Tzu Chi University, Hualien, Taiwan; ²Department of Nursing, Taipei Veterans General Hospital, Yuli Branch, Hualien, Taiwan

**Objective:** People suffering from diabetes have been increasing in the past decade in Taiwan. Healthcare providers cannot assist diabetes patients immediately while their symptoms occurred. If patients could recognize, identify and care the symptoms earlier, they might avoid a lot of unnecessary acute or chronic complications. The purpose of this study as: 1. to survey symptoms types of diabetes patients, and their frequency and importance. 2. to investigate the symptoms of patients with diabetes and their self-care behaviors and outcomes. 3. to explore the different socio-demographic variables, self-care for their symptoms of behavior differences.

**Materials and Methods:** One hundred and sixty one participants were recruited from the diabetes clinics in three regional hospitals at Hualien. Garcia’s Diabetes Symptom Self-care Inventory (DSSCI) was translated into Chinese as the tool to approach diabetic patient’s symptoms, self-care behaviors and outcomes.

**Results:** The results showed that an average of 14.4 symptoms were occurred among participants. Top four major symptoms of frequency were loss of interest in sex, blurred vision, sleep problems, and memory loss. Top four major symptoms of importance were blurred vision, numbness or tingling (limbs), sleep problems, and sensitivity to noise or light. The most widely used self-care was “rest”. The best way to improve the symptom was “eat or drink something.” Overall, participants who adopt the self-care behaviors for symptoms can achieve a good improvement.

**Conclusions:** The study served as an important reference or precursor for the future studies in the fields of diabetes care and clinical practice. DSSCI met the principles of patient-centered diabetes care, and may be a useful tool for the diabetes symptom-related study in Taiwan.

**MP2-9: PARENTAL TREATMENT DECISION MAKING AND QUALITY OF LIFE IN CHILDREN WITH CANCER**

Miao-Hsing Chen¹, Lian-Hua Huang², We-Yu Hsu², Ya-Ling Lee³, Kai-Ping Yao³, Yue-Cune Chang⁴
¹Department of Nursing, Tzu Chi University of Science and Technology, Hualien, Taiwan; ²Department of Nursing, National Taiwan University, Taipei, Taiwan; ³Department of Psychology, National Taiwan University, Taipei, Taiwan; ⁴Department of Mathematics, Tamkang University, New Taipei, Taiwan

**Objectives:** This study purpose to explore the family’s parental treatment decision making and quality of life of having a child diagnosed with cancer in the hospital.
Materials and Methods: The institutional review board at the hospital approved all study procedures. Research design using a In depth interviews and focus group discussions approach in was parents of children diagnosed with cancer in the hospital. Sample size total numbers are 12 parents, Data Collection from 2013, 11 to 2014 11. Using a participant observation study approach for data collection and themes were uncovered from each interview data set and rigorous methods to data analysis. Record the data with the process recording in interview and participant observation. Data analysis by authors and parent.

Results: The cancer treatment decisions made by the parents while their hospitalized children are being treated for cancer mainly include choosing the appropriate hospitals and treatment process. There are four themes of the quality of life: (1) Physiologically: Their sleep is disturbed due to the treatments of the children; They are more prone to feeling tired or catching a cold. (2) Psychologically: They are concerned about (a) the side effects of the treatments on the children, and (b) the children’s emotional changes under the invasive treatments; Feeling guilty when the other children in the family are being neglected; Feeling difficult reconciling the demands of work and caring for the sick children. (3) The changes in everyday lives: The diets are mainly composed of self-grown food; Timely isolations in the home environments; Living in one’s tribe. (4) Using the support system: The mutual support among husbands, wives, siblings, and paramedical staff.

Conclusions: It was expected that findings of the study could provide family members and paramedical staff be the positive force supporting the healing of children.

MP2-10: REDUCING THE VENTILATOR-ASSOCIATED PNEUMONIA WITH BUNDLE CARE APPROACH IN AN RESPIRATORY CARE CENTER

Chin-Min Huang, Yi-Sin Lu, Shih-Han Tung
Department of Nursing, Taipei Tzu Chi Hospital, Bunddhist Tzu Chi Medical Foundation, New Taipei, Taiwan

Objective: Ventilator-associated pneumonia (VAP) is a common nosocomial infection in respiratory care center (RCC), our respiratory care center began implementing ventilator-associated pneumonia bundle care in March 2016, but the compliance rate of bundle care intervention was poor and the ventilator associated-pneumonia infection rate increased by 3.5% in December, led to high mortality and prolonged hospital stays. So the aim of our study was to evaluate the impact of the bundle care approach on reducing the infection rate of Ventilator-Associated Pneumonia.

Materials and Methods: The study period was on January 2017. A previous evaluation on our unit found that the compliance rate of VAP bundle care intervention of nursing care was 70.6% and care correctness was only 78.0%. The causes of the low compliance rate for bundle care and low care correctness were: lack of recognition by the nurses, lack of remind system on daily assessment for patient, lack of standard care guidelines for Mouth care, the lack of standard to make sure the correct elevation of the head of the bed. For these shortcomings, we implemented intervention as: (1) Conducted education and e-learning programs about VAP bundle care. (2) Developed a remind system on medical operating system for VAP bundle daily assessment. (3) Established and implemented the standard care guidelines for mouth care and for removal the water within the ventilator tube and for checking the correct elevation of the head of the bed.

Results: After implementing our intervention, we found the approach effectively improved the compliance rate of VAP bundle care intervention of nursing care (from 70.6% to 96.0%), increased the care correctness (from 78.0% to 97.4%), upgraded the knowledge about VAP bundle care in our nursing staff (from 71.6 to 96.6 points). The ventilator associated-pneumonia infection rate decreased and reached zero tolerance from February to July in 2017.

Conclusions: With effective implementation, the ventilator associated-pneumonia infection risks can be lowered, mortality and days of hospitalization reduced, protecting patients from disease and ensuring patient safety.

Moderated Poster-3

MP3-1: MODIFIED HAND-ASSISTED RETROPERITONEOSCOPIC NEPHROURETERECTOMY WITH AN ADJUNCTIVE PORT FOR THE TREATMENT OF UPPER URINARY TRACT TUMOR

Yi-Sheng Chen, Chi-Wen Lo, Chun-Kai Hsu, Shang-Jen Chang
1Department of Urology, Taipei Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, New Taipei, Taiwan; 2School of Medicine, Tzu Chi University, Hualien, Taiwan

Objective: To report our experience with modified hand-assisted retroperitoneoscopic nephroureterectomy (HARNU) for the treatment of upper urinary tract tumor.

Materials and Methods: Between Sep. 2013 and Dec. 2017, 15 patients with localized urothelial carcinoma of the upper urinary tract underwent unilateral HARNU. Through a 7 cm Gibson’s incision on the lesion side, both the distal ureterectomy and excision of bladder cuff were done with an open method without entering the bladder. Without a commercial device to keep the pnuemoretroperitoneum, the surgeon’s hand was placed into the retroperitoneal space while allowing the fingers to be free for manual dissection. An adjunctive port was created in midclavicular line to facilitate resection of adjacent tissues and manual dissection. Endo GIA™ Universal Roticator 12 mm stapler was applied via the Gibson’s incision for management of renal pedicle while confirming the proper position through the adjunctive laparoscopic port.

Results: The patients mean age was 66 years. Mean operating time from manual dissection to removal of the kidney was 80 ± 33 min with an estimated blood loss of 267 mL. There were neither major complications nor need for conversion in any case. Patients had earlier resumption of oral intake 24 hours on postoperative day 1, and mean hospital stay was 7 days.

Conclusions: Modified HARNU with an adjunctive port is an effective modality for the treatment of upper urinary tract tumor. Patients benefited from a shorter operating time and
hospital stay with rapid convalescence and resumption of daily activity.

**MP3-2:**
THE CHANGES OF LOWER URINARY TRACT FUNCTION AND URODYNAMICS IN PROSTATE CANCER PATIENTS UNDERGOING ROBOTIC-ASSISTED RADICAL PROSTATECTOMY

Yuan-Hong Jiang1,2, Hann-Chong Kuo1,2
1Department of Urology, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan; 2School of Medicine, Tzu Chi University, Hualien, Taiwan

**Objective:** This study investigated the changes of lower urinary tract function and urodynamics localized prostate cancer patients after robotic-assisted radical prostatectomy (RaRP).

**Materials and Methods:** We prospectively enrolled 52 prostate cancer patients who underwent RaRP. The voiding condition and videourodynamic studies (VUDS) were investigated before and during the first year after the surgery.

**Results:** The mean age was 69.7 ± 8.1 years old with a mean total prostate volume of 35.7 ± 17.1 mL. In compared with the preoperative VUDS parameters, decreased detrusor voiding pressure, increased maximal urinary flow rate, and reduced bladder outlet obstruction index were detected at 12 months postoperatively. Overall, 53.8% of the patients had detrusor overactivity (DO) before the surgery. De novo DO developed in 15.4% of the patients, and the remission rate of DO was 19.2%. At 1 week after the removal of the urinary catheter, 43.5% of patients were pad-free and continent. The rates of both stress (SUI) and urge (UUI) urinary incontinence were 78% in 403 participants, 291 (72.2%) had stable bladder, 78 (19.4%) had DO and 34 (8.4%) had DU. The overall continence rate was 355 (81.8%), dysuria 79 (18.2%), urge incontinence 15 (3.5%), SUI and required secondary sling was 25 (6.2%) and urethrolysis was 14 (3.2%). The continent rate in stable bladder group was 84.5%, 80.8% in DO group and 79.4% in DU group, p=0.59. The therapeutic outcome of different bladder functions was shown in Table 1.

**Conclusion:** The overall continence rate was 83.4% and the 10-year continence rate achieved at least 72.9%. Preoperative urodynamic study for bladder function could not determine the therapeutic outcome in patients with SUI.

**Table 1: Therapeutic outcome in patients with different groups**

| Detrusor function | Continent | De novo | De novo | Urethrolysis | Secondary sling |
|-------------------|-----------|---------|---------|--------------|----------------|
| UII               | 88.6      | 83.8    | 73      | 62.5         | 49.8           |
| DO                | 84.1      | 72.9    | 62.5    |              |                |
| DU                | 79.0      |         |         |              |                |

**DO:** Detrusor overactivity, **DU:** Detrusor underactivity, **SUI:** Stress urinary incontinence, **UUI:** Urge urinary incontinence

**Figure 1:** Kaplan–Meier survival analysis of cumulative continence rate of suburethral sling in three groups of patients according to preoperative urodynamic study

**MP3-3:**
LONG-TERM SUCCESS RATE OF SUBURETHRAL SLING PROCEDURE IN STRESS URINARY INCONTINENCE PATIENTS WITH DIFFERENT BLADDER FUNCTION

Hueih-Ling Ong1, Hann-Chong Kuo1,2
1Department of Urology, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan; 2School of Medicine, Tzu Chi University, Hualien, Taiwan

**Objective:** To investigate the long-term success rate of suburethral sling in stress urinary incontinence (SUI) patients with different bladder function such as stable bladder, detrusor overactivity (DO) and detrusor underactivity (DU).

**Materials and Methods:** 403 female SUI patients who underwent suburethral sling procedure was enrolled in the study. Pre-operative video urodynamics study (VUDS) were performed and they were classified into 3 groups: (i) stable bladder, (ii) DO and (iii) DU. The baseline and post-operative urodynamic parameters; and therapeutic outcome were compared among three groups. The longest follow up in this study was up to 240 months.

**Results:** A total of 403 participants, 291 (72.2%) had stable bladder, 78 (19.4%) had DO and 34 (8.4%) had DU. The overall continence rate was 355 (81.8%), dysuria 79 (18.2%), urge incontinence 15 (3.5%), SUI and required secondary sling was 25 (6.2%) and urethrolysis was 14 (3.2%). The continence rate in stable bladder group was 84.5%, 80.8% in DO group and 79.4% in DU group, p=0.59. The therapeutic outcome of different bladder functions was shown in Table 1.

**Conclusions:** The overall continence rate was 83.4% and the 10-year continence rate achieved at least 72.9%. Preoperative urodynamic study for bladder function could not determine the therapeutic outcome in patients with SUI.

**Figure 1:** Kaplan–Meier survival analysis of cumulative continence rate of suburethral sling in three groups of patients according to preoperative urodynamic study
MP3-4: EXOGENOUS DELIVERY OF HYDROGEN SULFIDE USING DATS-LOADED PLGA MICROPARTICLES FOR TREATING ISCHEMIC DISEASES

Xiang-Yu Gao1, Meng-Hsuan Hsieh1, Chieh-Cheng Huang1, Kun-Ju Lin1, Hsin-Yi Hu1, Hsing-Wen Sung1, Yen Chang1
1Department of Chemical Engineering, National Tsing Hua University, Hsinchu, Taiwan; 2Department of Medical Imaging and Radiological Sciences, College of Medicine, Chang Gung University, Taoyuan, Taiwan; 3Division of Cardiovascular Surgery, Taipei Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, New Taipei, Taiwan

Objective: In critical limb ischemia, the occlusion of blood vessels results in tissue hypoxia, followed by intense inflammatory responses and increased oxidative stresses, which ultimately limits the survival of the affected cells. Hydrogen sulfide (H2S) has become recognized as an important signaling molecule, contributing to many physiological and pathological processes. In this study, a drug delivery system of poly(lactic-co-glycolic acid) (PLGA) was employed to load diallyl trisulfide (DATS), administering slow and controllable releasing of H2S for treating ischemic diseases.

Materials and Methods: In this study, the DATS-loaded PLGA microparticles (DATS MPs) were fabricated by single emulsion. The antioxidant and angiogenesis properties of DATS MPs were determined by a real-time quantitative polymerase chain reaction (PCR) system. Animal studies were performed by using hindlimb ischemia mouse model and their therapeutic effects were investigated by single-photon emission computed tomography (SPECT), immunostaining hematoxylin and eosin (H&E), and Masson’s trichrome.

Results: The fabricated DATS MPs could generate H2S in a sustained fashion. The in vitro results demonstrate that the DATS MPs can enhance the cell viability of C2C12 mouse myoblasts under hypoxia/oxidative stresses. In the in vivo experiments, the intramuscular administration of the DATS MPs was performed for the treatment of ischemic mouse hindlimb. We found that therapeutic angiogenesis was enhanced and blood flow recovery and limb salvage were ultimately achieved.

Conclusions: The results obtained in the study demonstrates the feasibility of using DATS MPs to fabricate sustainably releasing H2S to improve therapeutic angiogenesis and ultimately resulting in salvaging of the limb. The strategy that uses DATS MPs may provide a new means of delivering the exogenous H2S for the treatment of ischemic diseases.

MP3-5: AN INJECTABLE SELF-DOPING CONDUCTIVE HYDROGEL THAT IMPROVES ELECTRICAL COUPLING OF ISOLATED CARDIOMYOCYTES, RESTORING HEART FUNCTION AFTER MYOCARDIAL INFARCTION

Meng-Hsaun Hsieh1, Jun Wu1, Shu-Hong Li2, Song-Yi Wu1, Xiang-Yu Gao3, Ren-Ke Li1, Hsing-Wen Sung1, Yen Chang1
1Department of Chemical Engineering, National Tsing Hua University, Hsinchu, Taiwan; 2Division of Cardiovascular Surgery, University of Toronto, Ontario, Canada; 3Division of Cardiovascular Surgery, Taipei Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, New Taipei, Taiwan

Objective: Myocardial infarction (MI) is caused by the occlusion of coronary artery, inducing fibrosis scar formation and leading to cardiac arrhythmias. In this study, we developed an injectable conductive hydrogel to electrically bridge the scar barrier between healthy myocardium and viable cardiomyocytes within the injured heart, improving the heart function post-MI.

Materials and Methods: A self-doping conductive polymeric hydrogel (Gel-PAMB) was synthesized by grafting the conductive poly-3-aminooxybenzoic acid (PAMB) on biocompatible gelatin (Gel) and then chemically crosslinked. Cardiomyocytes were isolated from 2-day-old Sprague-Dawley (SD) rats and plated on Gel-PAMB to investigate the electric conduction between beating cardiomyocytes. Gel-PAMB was injected into the infarcted regions of a post-MI SD rats. Injured hearts were implanted with catheter to record the spontaneous arrhythmia, perfused with voltage-sensitive dye to identify the electrical propagation, and evaluated with echocardiography (ECHO) to investigate the heart function.

Results: In the in vitro study, neonatal rat cardiomyocytes cultured on Gel-PAMB showed faster and better synchronized Ca2+ conduction comparing to nonconductive Gel, implying that the coupling between the cells was fully developed. The results obtained in the animal study suggests that the Gel-PAMB improved heart function following MI. A significantly improved rebuilding of global heart function, reduced spontaneous arrhythmia, improved conduction velocity, and increased fractional shortening, which consist with our in vitro studies.

Conclusions: The above results demonstrate that the developed conductive Gel-PAMB may be used for MI regeneration.

MP3-6: ROBOTIC-ASSISTED MINIMALLY INVASIVE CABG IN TAIPEI TZU CHI HOSPITAL

Chung-Yu Lo, Yen Chang
Division of Cardiovascular Surgery, Taipei Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, New Taipei, Taiwan

Objective: Robotic-assisted minimally invasive coronary artery bypass grafting (CABG) has many advantages over conventional CABG. They include less wound size and pain, less intra-operative bleeding, avoidance of sternotomy, and rapid recovery after the operation. However, this kind of operation is technically demanding and is not popular in the society of cardiovascular surgeons. We would like to report our experience of robotic-assisted minimally invasive CABG in Taipei Tzu Chi Hospital to demonstrate the safety and feasibility of this operation.

Materials and Methods: From August, 2017 to February, 2018, 10 patients received elective robotic-assisted minimally invasive CABG. We harvested a radial artery graft from left or right forearm with aid of an endoscope and the LIMA graft with the Davinci Xi system. A 10cm mini-thoracotomy was made along the left 5th intercostal space to expose the heart. The radial artery graft was anastomosed with the LIMA graft to make a composite graft. Then, the composite graft was anastomosed with coronary arteries without support of a heart-lung machine. The clinical data of these patients were collected retrospectively and reviewed statistically.
Results: Nine male and one female patients received the operation during the study period. Their mean age is 59.3 ± 6.8 years old. Nine patients have CAD with TVD and one patient has CAD with single vessel disease. The average coronary anastomoses number is 3.2 ± 0.632. All patients recovered smoothly without major complications with the mean postoperative hospital stay of 8.3 ± 2.67 days.

Conclusion: From our clinical data, robotic-assisted minimally invasive CABG can be performed with acceptable safety and good postoperative recovery. It’s a good alternative option for patients who are afraid of conventional CABG.

MP3-7:
IS SIMULTANEOUS CHOLECYSTECTOMY WORTHWHILE DURING GASTRECTOMY FOR GASTRIC CANCER? A NATIONWIDE STUDY
Cheng-Chan Yu¹, Chung-Ying Wu²
¹Division of General Surgery, Taichung Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Taichung, Taiwan; ²Division of Gastroenterology, Taichung Veterans General Hospital, Taichung, Taiwan

Objective: The incidence of gallstone formation after gastrectomy for gastric cancer has been reported to be higher than in the general population. Simultaneous cholecystectomy during gastrectomy for gastric cancer has been advised by many authors due to such higher incidence of gallstone disease. However, some retrospective studies revealed that only small portion of the patients with gallstones after gastric cancer surgery will develop symptoms that requires cholecystectomy. The issue of whether or not performing simultaneous cholecystectomy during gastrectomy for gastric cancer is still under debate till now.

Materials and Methods: We conducted a nationwide cohort study to analyze claims data acquired from Taiwan’s National Health Institute Research Database (NHIRD) which has been well described in our previous reports. All National Health Insurance program-enrolled patients with gastric cancer who had undergone gastrectomy between 1997 and 2013 were eligible for inclusion. The exclusion criteria included previous cholecystectomy or concomitant cholecystectomy with gastrectomy. The observation period began from the date of gastrectomy for gastric cancer and lasted till the end of 2013, the cutoff date of the national health insurance coverage, or the date when the patient received cholecystectomy or the patient died. Patients with symptomatic gallstone disease that required cholecystectomy during the post-gastrectomy follow-up period were defined as the “cholecystectomy cohort”. Those without cholecystectomy were defined as the “non-cholecystectomy cohort”. The clinical characteristics of the two group were compared.

Results: From 1997 to 2013, there were 24,034 gastric cancer patients received gastrectomy included in this study. During this period, 812 (3.38%) patients received cholecystectomy (cholecystectomy cohort). Among this cohort, 236 (29.1%) patients received concomitant CBD exploration, and 141 (17.4%) patients received laparoscopy approach. Twenty patients received cholecystectomy within 3 months after gastrectomy. Univariate and Multivariate analysis showed that total gastrectomy, male sex, age 55-75 years old, and patients without chemotherapy were significant independent risk factors for symptomatic gallstone disease that required cholecystectomy.

Conclusion: In summary, the risk of symptomatic gallstone disease that required cholecystectomy after gastrectomy for gastric cancer is low in our study (3.38%). Routine simultaneous cholecystectomy is not necessary for large majority of patients. However, in male patients older than 55 years old, tumor located over upper third of stomach that required total gastrectomy, and early stage avoiding adjuvant chemotherapy, prophylactic simultaneous cholecystectomy during gastrectomy for gastric cancer might be considered.

MP3-8:
MODIFICATION OF CLOCKWISE LYMPHADENECTOMY IN LAPAROSCOPIC GASTRECTOMY FOR GASTRIC CANCER – EXPERIENCE FROM A LOW VOLUME CENTER
Cheng-Chan Yu, Jia-Hong Chen, Chin-Yao Lin, Zong-Yu Xie, Kuo-Yao Kao
Division of General Surgery, Taichung Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Taichung, Taiwan

Objective: To investigate the feasibility and efficacy of modified clockwise lymphadenectomy in laparoscopic gastrectomy for gastric cancer.

Materials and Methods: Clinical data of 55 case who underwent laparoscopic modified clockwise lymphadenectomy for gastric cancer from July 2012 to August 2017 were analyzed retrospectively. The clinicopathological outcomes were compared with the data of another 59 cases who received traditional clockwise lymphadenectomy from November 2007 to July 2012.

Results: The mean operative time, intraoperative EBL, and total harvested lymph nodes were 254 min, 73 cc, and 45 in the modified clockwise group, and were 303 min, 97 cc, and 34 in the traditional group.

Conclusion: The modified clockwise lymphadenectomy is useful to overcome the learning curve and maintain qualified lymphadenectomy at a low volume center.

MP3-9:
MODIFIED LAMINOPLASTY IN THE TREATMENT OF MULTILEVEL CERVICAL SPONDYLOTIC MYELOPATHY
Wen-Tien Wu¹,²
¹Department of Orthopedics, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan; ²School of Medicine, Tzu Chi University, Hualien, Taiwan

Objective: Normal cervical alignment in sagittal plane is about 10 degrees in lordosis from C2 to C7 and 30 degrees in lordosis from C0 to C2. The C2-7 sagittal vertical axis is normally from 1.5 cm to 4.0 cm. Normal cervical alignment can protect neural elements and maintain basic daily function, e.g. horizontal gaze, normal swallowing and etc. The cervical spinal deformity could be primary or secondary to thoracolumbar deformity. While assessing the cervical spinal deformity, the whole spinal alignment should be assessed at the same time. Part of the spinal deformity combines with neurocompression, which makes the surgical procedure more complicated.
Materials and Methods: According the location of deformity, the cervical spinal deformity could be classified in to upper cervical, subaxial, and cervicothoracic junctional deformity. According to the causes, the deformity could be classified into congenital, degenerative, posttraumatic, postsurgical, ankylosing spondylitis, rheumatoid arthritis, tumor, and so on. If there is not cord compression at deformed cervical level, the deformed thoracolumbar level usually needs to be corrected at first. If the motion segments are flexible, the anterior only or posterior only approach might be enough. If the spine is rigid without fused facet joints, the anterior only approach could be chosen. If the spine is rigid with already fused facet joints, the combined anterior and posterior approaches could be selected. In these rigid spines, the pedicle subtraction osteotomy is also a choice of treatment. I will show some cases with upper cervical and TL junctional deformity/ stenosis. In addition, we collected a series of cases with degenerative cervical kyphosis treated with combined anterior and posterior approaches.

Results: After adequate decompression and restoration of cervical alignment, most of patients got well fusion and functional recovery.

Conclusions: Realignment of cervical spinal deformity is very important in addition to decompression of the squeezed neural elements. After detailed preoperative assessment, selection of suitable surgical strategy for right patient will get the best results.

MP3-10: SPINOPELVIC SAGITTAL ALIGNMENT IN ASYMPTOMATIC ADULTS AND THE PATIENTS WHO RECEIVED LONG INSTRUMENTED FUSION FOR DEGENERATIVE LUMBAR SPINAL DISEASE

Kuang-Ting Yeh1,2, Wen-Tien Wu1,2, Tsai-Chu Yu1,2, Ing-Ho Chen1,2
1Department of Orthopedics, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan; 2School of Medicine, Tzu Chi University, Hualien, Taiwan

Objective: Many studies suggest the importance of the sagittal balance and modern surgical techniques have emphasized the importance of maintaining proper sagittal alignment. This prospective study describes the normal age- and sex-related changes in whole spine sagittal alignment and balance of asymptomatic adults without spinal disorder.

Materials and Methods: Whole spine, standing lateral radiographs of 392 Taiwanese volunteers were taken. They were divided into three groups by their age. The following eight radiological parameters were evaluated for each subject, including sacral slope (SS), pelvic tilt (PT), pelvic incidence (PI), thoracic kyphosis (TK), lumbar lordosis (LL), cervical lordosis (CL), C2-7 sagittal vertical axis (CSV A), and C7-S1 SVA (SVA). The data were analyzed statistically to determine the differences in the parameters and balance between the three groups.

Results: There were 140 male and 252 female volunteers equally distributed in three age groups. The mean PI was 48.7±11.6 degrees and mild higher in female volunteers. TK and CL increased with age while LL decreased with age. CSV A and SVA had no significant difference between the 3 groups. PT and the difference between PI and LL also increased with age but the change are significantly between male and female people. SS was highest in the group of 40-60 y/o volunteers.

Conclusions: The normal values of whole spinopelvic sagittal parameters in Taiwanese populations could be significantly influenced by age and sex. Our populations had significantly smaller PI and SS than those from Caucasian populations. The females were found to have significantly higher LL than the males. TK, CL, and PL tended to increase with age whereas LL tended to decrease with age and SS had a tendency to decrease in the elderly. The difference between PI and LL tended to increase with age and also changed differently between male and female volunteers. These data may be a good reference for the surgical correction of regional spine for the patients with different gender and age.

Moderated Poster-4

MP4-1: CLINICOPATHOLOGICAL STUDY OF SCRUB TYPHUS

Yung-Hsiang Hsu1,2, Li-Chen Cho3,4
1Department of Pathology, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan; 2School of Medicine, Tzu Chi University, Hualien, Taiwan; 3Holistic Education Center, Tzu Chi University of Science and Technology, Hualien, Taiwan; 4Department of Nursing, Tzu Chi University of Science and Technology, Hualien, Taiwan

Objective: Scrub typhus is a zoonotic disease caused by Orientia tsutsugamushi, which is transmitted by chiggers. The patient is bitten by chiggers, followed by eschar formation developed in the wound then the rickettsia may disseminate into visceral organs and died of the disease finally. This study was to evaluate the clinicopathologic feature, immunohistochemistry stain findings and serology change of scrub typhus patients.

Materials and Methods: We collected 12 cases of skin specimens confirmed scrub typhus using 47 KD immunohistochemistry stain. Three autopsy diagnosed cases were included. Histopathology review, serology tests results and immunohistochemistry stain using 47 KD antibodies are presented here.

Results: Histopathology revealed leukocytoclastic vasculitis in ten cases and lymphocytic vasculitis in two cases of skin lesions. Serology tests (PCR positive or IgG/IgM result) were confirmed scrub typhus only in ten cases. Histopathology of the three autopsy showed rickettsia may disseminated into heart resulting in interstitial myocarditis, lung with interstitial pneumonitis then ARDS developed; meninx with aseptic meningitis, brain with cerebritis, tubular cells of kidney with acute renal failure, liver, spleen, lymph nodes and gastrointestinal tract. Two serology tests were positive.

Conclusion: O. tsutsugamushi may disseminate into multiple organs through endothelial cells and macrophages, resulting in the development of fatal complications.

MP4-2: COPY NUMBER ALTERNATIONS ON BREAST CANCER SUSCEPTIBILITY LOCI OF 2q35, 3p24, 17q23 AND FGFR2 GENES IN TAIWANESE WOMEN WITH BREAST CANCER

Chien-Yu Lin1,2, Zhe-Wei Wu1,2, Shiao-Chia Li1,2, Kai-Hsiang Lin1,2, Shu-Fen Yang1,2, Cheng-Mao Ho1,3,4,5

1Department of Pathology, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan; 2School of Medicine, Tzu Chi University, Hualien, Taiwan; 3Department of Orthopedics, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan; 4Institute of Medical Research, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan; 5Department of Nursing, Tzu Chi University of Science and Technology, Hualien, Taiwan

Objective: To evaluate the clinicopathologic feature, immunohistochemistry stain findings and serology change of scrub typhus patients.

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Conclusion: O. tsutsugamushi may disseminate into multiple organs through endothelial cells and macrophages, resulting in the development of fatal complications.
**MP4-3:**

**INCREASING Candida Ciferrii/Stephanosascus Ciferrii Clinical Isolates in Central Taiwan, is it TRUE?**

Kai-Hsiang Lin1,2, Hui-Ting Chen1,2, Pei-Ing You1,2, Hui-Wen Liu1,2, Jui-Hsing Wang2,3, Shu-Fen Yang2,3, Chien-Yu Lin1,2, Cheng-Mao Ho4,5,6

1Department of Laboratory Medicine, Taichung Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Taichung, Taiwan; 2Department of Laboratory Medicine and Biotechnology, Tzu Chi University, Hualien, Taiwan; 3Division of Infectious Disease, Department of Internal Medicine, Taichung Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Taichung, Taiwan; 4Department of Nursing, HungKuang University, Taichung, Taiwan; 5Department of Clinical Pathology, Taichung Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Taichung, Taiwan; 6Department of Laboratory Medicine and Diagnosis, Tzu Chi University, Hualien, Taiwan

**Objective:** Since Jan-2017, identification (ID) and antimicrobial susceptibility tests of clinical yeast isolates from sterile sites were launched by YST ID card (product number 21343) and YS05 TEST KIT 20 CARDS of VITEK® 2 (bioMérieux, Marcy l’Etoile, France) in Taichung Tzu Chi Hospital. Between Jan of 2017 and Feb of 2018, there were increasing Stephanosascus ciferrii, teleomorph of Candida ciferrii, isolates from clinical samples. Due to rare reports of Stephanosascus ciferrii in the literatures, confirmation of the species ID was inevitable as a responsible clinical microbiology laboratory.

**Materials and Methods:** The information of all candida isolates underwent ID was collected during Jan of 2017 to Feb of 2018. Only two isolates were available for further investigation. Species was identified by YST ID card of VITEK® 2 again, API 20C AUX (48 to 72-hour identification of yeasts), BD™ Bruker MALDI Biotyper™, VITEK® MS (bioMérieux) and internal transcribed spacers (ITS1-ITS2) sequencing.

**Results:** There were total 209 candida isolates underwent ID, 7.2% (n = 15) were identified as Stephanosascus ciferrii (4 from pus and ascites cultures, 2 from blood, and bronchial wash cultures, one from urine culture). The probability scales of all these 15 isolates were all ≥85%, reaching the reportable thread hold. However the final ID results of both 2 available isolates were different from initial IDs. All re-identifying showed consistent among various methods, including YST ID card of VITEK® 2, one is Candida albucan and the other is Candida galbrata.

**Conclusions:** According to the CLSI document of M52: Verification of Commercial Microbial Identification and Antimicrobial Susceptibility Testing Systems, the acceptable ID of a new system is equivalent to or better than the existing system (eg: ≥90% to 95%). That means mis-ID of clinical isolates is not rare and might result from system limitations and various procedure errors. Re-ID by other or standard molecular sequencing methods for unusual or discrepant isolates between IDs, colony morphology and antibiograms is warrantable. Correct IDs of clinical isolates is a mission of microbiology laboratory staffs under the consideration of patient safety.

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**MP4-4:**

**ASSOCIATION OF USE OF REHABILITATION SERVICES WITH THE RISK OF OSTEOPOROSIS AMONG PATIENTS WITH RHEUMATOID ARTHRITIS IN TAIWAN**

Li-Chung Lin1, Ming-Chi Lu2, Tsung-Yi Tsai3

1Department of Rehabilitation, Dalin Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Chiayi, Taiwan; 2Division of Allergy, Immunology and Rheumatology, Dalin Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Chiayi, Taiwan; 3Department of Medical Research, Dalin Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Chiayi, Taiwan

**Objective:** People with rheumatoid arthritis (RA) have increased risk of developing osteoporosis (OP). It remains unclear whether use of rehabilitation services (RS) can reduce the risk of developing OP. We conducted a longitudinal cohort study to compare the effect of RS on the risk of OP in Taiwanese individuals with RA.

**Materials and Methods:** A national health insurance database was used to identify 2693 newly diagnosed RA patients, 20-70 years-old, between 1998 and 2007. Among them, 808 received RS after the onset of RA (RS users) and 1885 patients did not receive RS (non-RS users). All enrollees were followed until the end of 2012 to record incident cases of OP. A Cox proportional hazards regression model was used to compute adjusted hazard ratio (aHR) for the relationship of use of RS with OP.
Subjects received 40-minute suspension exercises training twice per week. Functional tasks included rapid arm lift and repeated trunk flexion/extension, respectively. Muscle activation time of the transverse abdominis and internal oblique (TrA/IO), and the amplitudes of beta band and gamma band in electroencephalography were simultaneously recorded during the tasks. Outcome measures included pain scale, Oswestry Disability Index (ODI), and CMC. Wilcoxon signed ranks test was performed to detect the differences pre and post intervention.

Results: Eight patients with LBP were recruited. Significant improvement of pain (3.38 to 1.38, \(p = 0.01\)) and ODI (3.63 to 1.75, \(p = 0.024\)) was observed after intervention. Changes of TrA/IO timing were non-significant. The gamma band significantly decreased during the repeated trunk flexion-extension task (0.275 to 0.175, \(p = 0.0499\)) while not in the rapid arm lift test.

Conclusions: After six weeks of suspension exercise training, patients with LBP reported improvement of pain and disability. Exercise training positively impacts the cortical presentation during high-load movement. Improvement of motor performance may result from better synchronization in CMC.

MP4-6: SUSPENSION EXERCISES IMPROVE THE CORTICOMUSCULAR COHERENCE IN PATIENTS WITH LOW BACK PAIN- PRELIMINARY STUDY

Bo-Jhen-Chen\(^1\), Tzu-Ying Liu\(^2\), Li-Wei Chou\(^2\)
\(^1\)Department of Rehabilitation, Taipei Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Taipei, Taiwan; \(^2\)Department of Physical Therapy and Assistive Technology, National Yang Ming University, Taipei, Taiwan

Objective: The motor cortex modulates the anticipatory postural adjustment in daily activities. Patients with low back pain (LBP) exhibit delayed excitability of corticospinal tract. Whether exercise training could benefit the corticomuscular coherence (CMC) has not been explored in this population. We aimed to investigate the effectiveness of suspension exercises in LBP, and the influence of functional connection between brain and postural muscles.

Materials and Methods: Subjects received 40-minute suspension exercises training twice per week. Functional tasks included rapid arm lift and repeated trunk flexion/extension, respectively. Muscle activation time of the transverse abdominis and internal oblique (TrA/IO), and the amplitudes of beta band and gamma band in electroencephalography were simultaneously recorded during the tasks. Outcome measures included pain scale, Oswestry Disability Index (ODI), and CMC. Wilcoxon signed ranks test was performed to detect the differences pre and post intervention.

Results: Eight patients with LBP were recruited. Significant improvement of pain (3.38 to 1.38, \(p = 0.01\)) and ODI (3.63 to 1.75, \(p = 0.024\)) was observed after intervention. Changes of TrA/IO timing were non-significant. The gamma band significantly decreased during the repeated trunk flexion-extension task (0.275 to 0.175, \(p = 0.0499\)) while not in the rapid arm lift test.

Conclusions: After six weeks of suspension exercise training, patients with LBP reported improvement of pain and disability. Exercise training positively impacts the cortical presentation during high-load movement. Improvement of motor performance may result from better synchronization in CMC.

MP4-7: PLASTICITY OF BRAIN IN ADULTS BEFORE AND AFTER HEARING AID FITTING

Kuan-I Lee\(^1\), Wang-Ting Huang\(^1\), Ming-Wu Tsai\(^1\), Shu-Hui Lai\(^1\), Juen-Haur Hwang\(^1,2,3\)
\(^1\)Department of Hearing and Speech-Language Center of the Department of Otolaryngology, Dalin Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Chiayi, Taiwan; \(^2,3\)Department of Otolaryngology, Dalin Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Chiayi, Taiwan; \(^3\)School of Medicine, Tzu Chi University, Hualien, Taiwan

Objectives: The purpose of this study is to investigate the changes in the activation pattern of auditory cortex following long-term monaural amplification.

Materials and Methods: Serial functional magnetic resonance images were obtained while speech sounds was presented to the aided (right) and unaided (left) ears of eight hearing-impaired subjects before, 3 months, and 9 months after beginning the use of a single hearing aid. The results were analyzed by group analysis.

Results: Before hearing aid fitting: We found that activation patterns of the auditory cortex were somewhat segmented in the left hemisphere, no matter the speech sounds were delivered to right or left ear. Cross projection was lost in response to right ear stimulation. After hearing aid fitting: On the unaided side stimulation, the activation tended to decrease progressively in both sides 3 months and 9 months after beginning monaural amplification. On the aided side stimulation, activations also decreased 3 months after amplification bilaterally, but tended to recover at the contralateral hemisphere after...
9 months of amplification. Cross projection was restored in response to right ear stimulation.

**Conclusion:** Speech-elicited activation decreased after monaural amplification bilaterally during unaided or aided ear stimulation, but tended to recover later at the contralateral hemisphere during aided ear stimulation.

**MP4-8:**
**EFFECT OF HEPATITIS B VIRUS X-INDUCED METASTATIC MICROENVIRONMENT BY NARINGENIN IN HEPATOCELLULAR CARCINOMA**

Ko-Li Ku, Chia-Chou Yeh

**Objective:** Naringenin, a flavonoid abundantly present in fruits, vegetables, and in Chinese herbs, is not well studied especially in hepatitis B virus X (HBx) protein-induced invasion of hepatoma cells. We investigated the mechanisms underlying Naringenin-mediated inhibition of HBx-induced cell invasion. Tumor invasion requires increased expression of MMP-9, so we also researched whether naringenin suppresses the invasiveness and metastatic potential of hepatocellular carcinoma by inhibiting MMP-9 signal transduction pathways. This study provides insight into novel Nar-mediated

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**Figure 1:** (A) HepG2 cells were transfected with pRT-HBx-GFP and then observed under a fluorescence microscope. (B) Expression of the HBx-GFP fusion protein was determined by western blot analysis using a GFP-specific antibody. (C) For the wound healing assay, HepG2-HBx-GFP cells were treated with different concentrations of Nar and incubated for 48 h. Photos of the wound were taken using microscopy under 100× magnification. (D) For invasion assay, HepG2-HBx-GFP cells were added to the upper compartment of Matrigel invasion chambers. Cells were treated with different concentrations of Nar for 24 h, and then the cells on the lower surface of the insert were stained with crystal violet and counted under a microscope (200× magnification) for cell quantification. (E) Western blot analyses showed MMP-9 secretion into the culture medium (supernatant) and MMP-9 expression in the cytosol. (F) HepG2-HBx-GFP cells treated with increasing concentrations of Nar were transfected with MMP-9-, NF-κB-, or AP-1-containing plasmids linked to the luciferase gene. After a 16h treatment, cell lysates were assayed for luciferase activity. Values represent the mean ± SEM of 3 independent experiments. *p < 0.01 compared to HepG2-HBx-GFP cells with DOX
HBX-induced anti-metastatic mechanisms and the properties of malignant cancer cells and the surrounding tumor microenvironment.

**Materials and Methods:** Proteins were detected by western blot analysis. Proteins were separated by 10% SDS-polyacrylamide gel electrophoresis, and then transferred electrophoretically to nitrocellulose membranes. Bound antibodies were detected using peroxidase-conjugated antibodies followed by chemiluminescence assay. For wound healing assay, cell were grown in plates. A wound was created by scratching the cell monolayer with tip. After 48 h, photomicrographs of the wound were obtained at 100× magnification. Cell invasion was measured using Matrigel-coated film inserts fitted into invasion chambers. Cells were added to the upper compartment of an invasion chamber. After 24 h, cells on the lower surfaces were stained with crystal violet, and the number of cells was determined by microscopy. For Luciferase assay, cells were lysed with lysis buffer. A microplate reader was used to assess the luciferase activity.

**Results:** These data indicate that Naringenin inhibited HBx-induced invasion and migration in HepG2 cells. The expression of MMP-9, NF-xB, and AP-1 was activated by HBx, and this activation was suppressed by naringenin [Figure 1].

**Conclusions:** We hypothesize that naringenin may suppress HBx-induced MMP-9 expression through activation of AP-1 and NF-xB. Thus, in this study, we investigated the effect of naringenin on MMP-9 expression, cell invasiveness, metastasis in HBx-transfected cells. Naringenin thus may have the therapeutic potential to inhibit the invasion and metastasis of hepatocellular carcinoma and act as a potential target for systemic therapies.

**MP4-9:**
**DOES THE USE OF TRADITIONAL CHINESE MEDICINE REDUCE THE RISK OF FRACTURE FOR PATIENTS WITH OSTEOPOROSIS? A NATIONWIDE POPULATION-BASED COHORT STUDY**

Wei-Jen Chen1, Chia-Chou Yeh1, Ming-Chi Lu2, Tzung-Yi Tsai3
1Department of Chinese Medicine, Dalin Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Chiayi, Taiwan; 2Division of Allergy, Immunology and Rheumatology, Dalin Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Chiayi, Taiwan; 3Department of Medical Research, Dalin Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Chiayi, Taiwan

**Objective:** Osteoporosis (OS) is a highly disabling condition that can lead to fragility fracture, inducing a greater threat of functional limitations for the affected individuals. It is unclear whether traditional Chinese medicine (TCM), the most commonly used in complementary and alternative medicine, could reduce the risk of fracture. This study aimed to investigate the relationship between TCM usage and the subsequent fracture risk among OS patients.

**Materials and Methods:** This longitudinal cohort study used the Taiwanese National Health Insurance Research Database to identify 250,699 newly diagnosed OS patients aged 20-to-70 years between 1998 and 2010. We recruited 97,017 TCM users after the onset of OS (TCM users), and randomly selected 97,017 OS subjects without TCM treatments as controls (non-TCM users) by propensity score matching according to the demographic characteristics and comorbidities at enrollment. All enrollees were followed until the end of 2012 to record the incidence of bone fracture. We applied the Cox proportional hazards regression model to compute hazard ratio (HR) of fracture risk.

**Results:** During the 15-year follow-up, 8,501 TCM users and 11,209 non-TCM users sustained bone fracture, with an incidence rate of 10.38 and 13.66, respectively, per 1000 person-years. We found TCM users had a significantly reduced risk of fracture compared to non-TCM users (adjusted HR = 0.75; 95% confidence interval [CI] 0.73 to 0.78). Predominant effect was observed among those treated with TCM for longer than 180 days (adjusted HR = 0.54; 95% CI 0.52 to 0.57). Findings also demonstrated that the most effective Chinese medicines for fracture prevention, such as Yan hu suo (Rhizoma Corydalis), Huang Qin (Scutellaria Baicalea), Jie Geng (Platycodon grandifloras), Xiang Fu (Cyperus rotundus), Hai Piao Xiao (Cattelbone Sepium), Jia-Wei-Xiao-Yao-San, Ge-Gen-Tang, Shao-Yao-Gan-Cao-Tang and Du-Huo-Ji-Sheng-Tang.

**Conclusions:** The use of TCM treatment was associated with the lower risk of fracture for OS patients, suggesting TCM could be integrated into routine therapeutic strategies to prevent subsequent fracture.

**MP4-10:**
**NEUROPROTECTIVE EFFECT OF OROXYLIN A IN AN EXPERIMENTAL RODENT MODEL OF ISCHEMIC OPTIC NEUROPATHY**

Yu-Yau Chou1, Jia-Ying Chien1, Shun-Ping Huang1,2
1Department of Molecular Biology and Human Genetics, Tzu Chi University, Hualien, Taiwan; 2Department of Ophthalmology, Taichung Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Taichung, Taiwan

**Objective:** Oroxylin A (5,7-dihydroxy-6-methoxyflavone) is a plant-originated flavonoid isolated from medical herb Scutellaria baicalensis Georgi, which exhibits several beneficial effects including neuroprotection and anti-inflammation1-4. We have previously demonstrated that oroxylin A has neuroprotective effects on retinal ganglion cell (RGC) survival with preserved visual function after ON crush injury. The aim of our study is to further evaluate the effect of oroxylin A on ischemic injury and its molecular mechanisms in a rodent model of anterior ischemic optic neuropathy (rAION).

**Materials and Methods:** AION induction was achieved using laser-coupled photoactivation of optic disc after intravenously injection of rose Bengal through tail vein. The male Wistar rats were divided into three experimental groups: (1) sham, (2) AION induction and subeutaneously (SC) injected with PBS, (3) AION induction and SC injected with oroxylin A (15 mg/Kg in 0.2 mL PBS). Animals were sacrificed at different time post infarct. Evaluation methods include TUNEL assay and retrograde labeling FluoroGold (FG) of retinal ganglion cells (RGCs), immunohistochemical studies of ED1 in ON. Western blot analysis for pro-surviving signaling was performed. Visual function evaluated by flash visual evoked potential (FVEP).
**Results:** Oroxylin A treatment significantly reduced optic nerve edema in the acute phase of rAION. The RGC survival were significantly improved in AION induction with oroxylin A-treated rats compared with those of AION induction with PBS-treated rats (70% vs 45% survival in the central and 75% vs 40% in mid-peripheral retina). For FVEP assessment, oroxylin A treatment significantly restored the visual function after AION induction. Furthermore, less ED1 positive cells were accumulated in oroxylin A-treated ON indicate the anti-inflammatory effect of oroxylin A at the ON after infarct.

**Conclusions:** Oroxylin A promotes RGCs survival rate in both central retinal and mid-peripheral retinas in rAION model. Oroxylin A preserves visual function after AION induction. The rescue effects of oroxylin A work through the dual actions of anti-apoptosis and anti-inflammation. These effects are achieved by activation of Nrf2/HO-1 signaling pathway in the retina. Oroxylin A has potential as a future therapeutic agent for ischemic optic neuropathies.
Non Discussion Poster

NDP-1:
OSTEOPROTEGERIN AND OSTEOPONTIN LEVELS, BUT NOT GENE POLYMORPHISMS, PREDICT MORTALITY IN PATIENTS WITH CARDIOVASCULAR DISEASES

Jeng-Feng Lin, Semon Wu, Ming-Sheng Teng, Hsuan-Li Huang, Yu-Lin Ko
Cardiovascular Center and Division of Cardiology, Department of Internal Medicine, Taipei Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, New Taipei, Taiwan

Objective: High osteoprotegerin (OPG) and osteopontin (OPN) levels were associated with adverse cardiovascular events in patients with coronary artery disease. Little is known about the effects of OPG or OPN single nucleotide polymorphisms on clinical outcome of coronary artery disease (CAD) and peripheral artery disease (PAD). The aim of this study is to investigate whether OPG or OPN SNP can predict mortality.

Materials and Methods: We enrolled 617 individuals receiving health examination (HE), 536 patients with coronary artery disease (CAD), and 86 patients with peripheral artery disease (PAD). Genotyping for OPG SNP rs2073618 and OPN SNP rs11730582 were performed and OPG and OPN levels were measured. The clinical endpoint was all-cause death.

Results: The frequency of OPG rs2073618 GG genotype and OPN rs11730582 CC genotype in CAD population and PAD population did not differ from HE population. In CAD population, Kaplan-Meier survival curves showed that high OPG level (p < 0.001) and high OPN level (p = 0.001) were strong predictors of all-cause death. The OPG rs2073618 CC genotype (p = 0.968) and the OPN rs11730582 TT genotype (p = 0.978) did not predict all-cause mortality. In PAD population, Kaplan-Meier survival curves showed that high OPG level (p < 0.001) and high OPN level (p = 0.002) were strong predictors of all-cause death. The OPG rs2073618 CC genotype (p = 0.224) and the OPN rs11730582 TT genotype (p = 0.471) did not predict all-cause mortality.

Conclusions: High OPG and high OPN levels were strong predictors of mortality in both CAD and PAD patients. OPG rs2073618 CC genotype or OPN rs11730582 TT genotype was not associated with susceptibility of CAD and PAD and did not predict all-cause mortality in these patients.

NDP-2:
IMPROVING COMPREHENSIBILITY AND ANXIETY SENSATIONS IN PATIENTS WITH LIVER TUMOR RADIOFREQUENCY ABLATION

Jia-Jia Chou, Hai-Luen Hsu, Chun-Chao Huang, Szu-Chin Chen
Department of Nursing, Taipei Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, New Taipei, Taiwan

Objective: Since Radiofrequency Tumor Ablation (RFA) treatment was introduced in 2013, many patients have anxiety symptoms before examination and have been repeatedly asked about the treatment process. The average of patients’ Brief Symptom Rating Scale (BSRS) score was 7. In particular, insomnia appears on the night before treatment, which highlights the unclear treatment process for patients or their families. The objective is to improve the patients and family’s cognition of RFA treatment to reach 90% and decrease the BSRS scale < 2.

Materials and Methods: Data collected via questionnaire of patient’s comprehension of RFA treatment and BSRS score. A multimedia was designed for instruction of RFA treatment process based on patient and family’s need. The media provided to patient and family members before surgery, data collected before and after watching the media.

Results: A total of 28 patients included from April to December 2017. Preoperative comprehension pretest of RFA treatment was 84%. After intervention, posttest has reached 100%. The average BSRS score was 7 decreased to 1.

Conclusions: Patients and their families was unclear the RFA treatment process and occurred symptoms of anxiety. Multimedia instruction materials of RFA treatment process has provided and have improved their understanding of that treatment process. Otherwise, the result shows effectively reduced the anxiety symptoms while also shortening the days of hospitalization.

NDP-3:
GERIATRIC NUTRITIONAL RISK INDEX: A SIMPLE NUTRITION SCREENING TOOL CORRELATES WITH UNIQUE HEALTH CONDITIONS IN NONDIALYSIS CKD PATIENTS

Ting-Yun Lin, Szu-Chun Hung
1Division of Nephrology, Taipei Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, New Taipei, Taiwan; 2School of Medicine, Tzu Chi University, Hualien, Taiwan

Objective: Malnutrition is prevalent in patients with chronic kidney disease (CKD). However, current tools for nutrition screening are not specific to the CKD population. Proper evaluation of the nutritional status of these individuals must consider the unique influences of CKD, such as fluid status, inflammation, proteinuria, and residual renal function. We hypothesized that geriatric nutritional risk index (GNRI), a simple tool designed for assessing nutrition-related risks in the elderly, may correlate with clinical features and predict outcomes among patients with nondialysis CKD.

Materials and Methods: GNRI was calculated by incorporating serum albumin and anthropometric measurements in 326 patients with stage 3–5 CKD who were followed up from September 2011 to March 2017 for end-stage renal
NDP-5: EFFECTS OF MYELOID LEUKEMIA CELLS TO LUTEOLIN IS MODULATED BY DIFFERENTIAL EXPRESSION OF HUMAN PTTG1 ONCOPROTEIN

Jui-Hung Yen1, Hsin-Jung Tien1, Shih-Fen Chen1, Huei-Lin Tang1, Pei-Yi Chen2
1Department of Molecular Biology and Human Genetics, Tzu Chi University, Hualien, Taiwan; 2Center of Medical Genetics, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan

Objective: Luteolin, a flavonoid nutraceutical abundance in vegetables and fruits, exhibits a wide range of bioactive properties, including antioxidant and anti-cancer activities. Pituitary tumor transforming gene 1 (PTTG1), an oncoprotein that regulates cell proliferation, is highly expressed in several types of cancer including AML. In this study, we aim to investigate the anti-cancer effects of luteolin on cells with differential PTTG1 expression and their underlying mechanisms in human myeloid leukemia cells.

Materials and Methods: The cell viability of AML cells was determined using MTT assay. Cell cycle distribution was assessed using propidium iodide staining followed by flow cytometry analysis. PTTG1 protein and apoptotic markers were determined using western blot. Gene expression alterations in PTTG1-knockdown leukemia cells was performed by microarray analysis and verified using qRT-PCR.

Results: Luteolin (25-100 μM) significantly reduced cell viability in AML cells but did not affect normal PBMC cells. We showed that luteolin induced a stronger apoptosis on undifferentiated myeloid leukemia cells with higher PTTG1 protein levels than on 12-myristate 13-acetate (PMA)- or all-trans-retinoic acid (ATRA)-differentiated THP-1 cells with lower PTTG1 expression. In addition, PTTG1 knockdown by shRNA in leukemia cells suppressed cell proliferation, arrested cell cycle progression and impaired the effectiveness of luteolin on cell cycle regulation. Moreover, shPTTG1 cells with luteolin exposure presented a reduction of the apoptotic proteins and maintained higher levels of the anti-apoptotic proteins such as Mcl-1 and Bel-2, which exhibited greater resistance to apoptosis. Microarray analysis showed that 20 genes associated with cell proliferation including CCLX10, VEGFA, TNF, TP63 and FGFR1, were down-regulated in PTTG1-knockdown cells.

Conclusions: Luteolin-triggered leukemia cell apoptosis is modulated by the differential expression of PTTG1. Overexpression of PTTG1 may modulate cell proliferation-related regulators and enhance the response of myeloid leukemia cells to luteolin. Luteolin is beneficial for the treatment of cancer cells with highly expressed PTTG1 oncoprotein.

NDP-6: GROUP B STREPTOCOCCUS INFECTIVE ENDOCARDITIS WITHOUT AN IDENTIFIED INFECTION SOURCE

Ching-Yuan Hu1, Lih-Shinn Wang1,2, Ming-Wun Wong1, Sou-Chan Tsai1
1School of Medicine, Tzu Chi University, Hualien, Taiwan; 2Division of Infectious Diseases, Department of Internal Medicine,
Objective: Group B Streptococcus (GBS), also called Streptococcus agalactiae, is a rare cause of invasive infection in adults. GBS is commonly found in the colon and female genital tract. Also, under colonoscopy lesion may be noted. Infective endocarditis (IE) is an uncommon manifestation of GBS invasive disease. We describe a case of native mitral valve endocarditis caused by GBS.

Methods and materials: A 64-year-old man, with history of chronic sinusitis s/p FESS, HTN and HBV carrier with entecavir use, was admitted due to intermittent fever (38°C) for one week. The fever developed seven days before admission accompanied with chills, nausea, vomiting, epigastric fullness and tea-color urine. He went to a medical center in Taipei first. CT revealed negative finding. He then visited GI OPD for further evaluation. Abdominal echo showed negative finding but HBV viral load was 92,110 IU/mL. Entecavir was prescribed. However, the fever persisted, so he came to ER. Laboratory data disclosed with leukocytosis (11,040/uL) with neutrophilia (81.9%), elevated CRP (3.72 mg/dL), ALT (144 U/L), AST (98 U/L), TBI (2.4 mg/dL), DBI (1.2 mg/dL) and GGT (230 IU/L). 3 sets of blood culture reported gram-positive cocci in chain (GPC) within 24 hrs.

ER showed group B Streptococcus. Due to unknown infection focus, echocardiography, Gallium scan, esophagogastroduodenoscopy (EGD) and facial paranasal sinuses computerized tomography (CT) were arranged. Echocardiography, Gallium scan, EGD showed insignificant finding. Facial paranasal sinuses CT revealed air-fluid level over bilateral maxillary and right sphenoid sinuses. Infective endocarditis was still highly suspected. Thus, TEE was considered. TEE showed a 0.33 cm × 0.59 cm oscillating nodule over anterior leaflet (atrial side) of mitral valve with moderate MR, compatible with vegetation. Oxacillin was shifted to cefotaxime plus gentamicin for 2 weeks and followed by cefotaxime plus fosfomycin for 4 weeks.

Conclusion: Infective endocarditis is an uncommon manifestation of Group B Streptococcus invasive disease. To identify the infection source is still a challenge.

NPD-7:
THE USE AND MISUSE OF PLATELET TRANSDUSSION IN A REGIONAL HOSPITAL IN TAIWAN

Ju-Huei Chien1,2, Kao-Wei Li3, Hsun-Yang Chuang4, Tin-Lune Zheng5, Tsing-Fen Ho6
1Department of Laboratory Medicine, Taichung Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Taichung, Taiwan; 2Department of Laboratory Medicine, Taichung Tzu Chi University, Hualien, Taiwan; 3Department of Laboratory Medicine and Biotechnology, Tzu Chi University, Hualien, Taiwan; 4Department of Medical Laboratory Science and Biotechnology, Central Taiwan University of Science and Technology, Taichung, Taiwan; 5Department of Hematology and Oncology, Taichung Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Taichung, Taiwan

Objective: Platelet transfusion is one of the major therapeutic support of thrombocytopenia. Every year approximately of 170,000 platelet concentration and 245,000 Apheresis Platelets/Leukocyte-Reduced Apheresis Platelets (LRP) products are transfused in Taiwan and the transfusion numbers have been rising over past several years. According to AABB guideline and recommendations, it was suggested prophylactic platelet transfusion with platelet count less than 50 × 10^9 cells/L in major elective neuraxial surgery and less than 10 × 10^9 cells/L to reduce the risk for spontaneous bleeding. This research was focused on the clinical platelet transfusion and to provide evidence for the appropriate use of platelet in the hospital.

Materials and Methods: A retrospective review of all patient who transfused with platelet components reported in Taichung Tzu Chi Hospital. Total of 1604 patients was included in 2017 and total of 1162 platelet apheresis, 397 LRP and also 540 platelet concentrations were transfused. In our hospital, the physician required to document the reasons for blood transfusion. Group characteristics were compared using X^2 test. The multivariable logistic regression model was applied to estimate odds ratios and 95% CI for the incidence of transfusion reaction.

Results: In the total of 1604 patients who transfused platelet products, there was 427 (26.6%) individuals were hematology and oncology-related disease, followed by chest disease 302 patients (18.8%). From our result, patient’s platelet counts between 1-50 × 10^9 cells/L, 521 (53.0%) were transfused within 4 units and platelet counts between 100 × 10^9 cells/L, 188 (39.4%) were transfused within 4 units. However, Patient’s platelet counts over 200 × 10^9 cells/L, 26 patients were also transfused with platelet products within 1-4 units without active bleeding. Those patients may not be necessary for platelet transfusion and may consider as overuse of platelets.

Conclusions: Early studies of spontaneous bleeding increased the bleeding risk significantly only at platelet counts below 5 × 10^10/L. A high proportion of platelet units were transfused prophylactically to reduce the risk of bleeding. However, platelet transfusion also associated with risk of transfusion reaction in thrombocytopenia patient. Although, a good proportion of platelet transfusion was considered appropriate, there was still few misuse and overuse has to justify. Our results may help to reduce platelet inappropriate use and also improve transfusion quality.

NPD-8:
PEPTIDE DERIVED FROM CHEMOKINE CXCL12 CAN INHIBIT CXCR4 BINDING TO CXCR4 AS A THERAPEUTIC STRATEGY FOR LUNG CANCER

Chun-Chun Chang1, Kingsley Theras Primus Dass2, Shinn-Jong Jiang1, Hao-Jen Hsu3
1Department of Laboratory Medicine, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan; 2Department of Life Sciences, Tzu Chi University, Hualien, Taiwan; 3Department of Biochemistry, School of Medicine, Tzu Chi University, Hualien, Taiwan
Objective: This study aims at finding potential peptides from the binding sites of CXCL12/CXCR4 complex by molecular docking and confirmation by biophysical experiments and cellular assays. With the determined peptides we are able to develop the peptide-based antagonist inhibit the interaction between CXCR4 and CXCL12 which may prevent the cancerous growth and the metastasis to different organs.

Materials and Methods: In silico approaches including homology modeling, molecular docking, molecular dynamic simulations and binding free energy calculations were employed on the study of the binding of CXCL2 to CXCR4, and in vitro surface plasmon resonance measurement, peptide/ cell adhesion, transmigration assays were applied for the validations of the in silico results.

Results: The initial binding interactions between a modelled full-length CXCR4 and CXCL12 were performed by a 1.8 μs MD simulations to determine an antagonist peptide CXCL12p and MM/PBSA binding free energy calculations. The results revealed that electrostatic interactions dominate the binding. The cell experiments also confirmed that the designed peptide can inhibit CXCL12-induced monocytes adhesion, transmigration, wound healing and downstream signal transmission of A549 cells.

Conclusions: This study provides atomic-level insights into the structural and functional importance of CXCR4 and can be applied in the design of the anti-cancer peptide drugs.

NDP-9: SYSTEMIC AUTOIMMUNE DISEASES INCREASE RISK OF OBSESSIVE - COMPULSIVE DISORDER: A NATIONWIDE POPULATION-BASED COHORT STUDY

Yu-Chih Shen
Department of Psychiatry, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan

Objective: Studies suggested autoimmunity plays a role in the etiology of obsessive-compulsive disorder (OCD). The purpose of this study was to determine if a history of systemic autoimmune diseases (SADs) is associated with an increased risk of later onset of OCD.

Materials and Methods: Patients with or without SADs were identified in the Taiwan National Health Insurance Program. The SADs cohort consisted of 63,165, while the comparison cohort consisted of 315,825 patients. The incidence rates of OCD with a maximum follow-up period of 10 years between patients with and without SADs were compared using a Cox proportional hazard model to estimate the hazard ratio (HR) and 95% confidence interval (95% CI).

Results: The major finding was the discovery of a higher incidence of subsequent OCD among patients with SADs (HR: 1.85; 95% CI: 1.41-2.43) after adjusted for other demographic characteristics. Specifically, the risk of OCD was observed to be significant increase in systemic lupus erythematosus (1.65, 1.07-2.54) dermatomyositis (3.25, 1.04-10.17), and Sjogren syndrome (2.38, 1.53-3.72). Also, this study revealed some potential risk factors for developing OCD, including younger age (less than or equal to 50 year-old) and some comorbidities (alcohol use disorder, liver cirrhosis, and malignancies). Conversely, this study found that steroid use was a potential protective factor for the development of OCD.

Conclusions: This study confirms that SADs are associated with higher incidence of OCD, suggesting that abnormal autoimmune process is associated with increased expression of psychiatric disturbances.

NDP-10: INTERMITTENT HYPOXIA-INDUCED AUTOPHAGY ATTENUATES ENDOPLASMIC RETICULUM STRESS AND CELL DEATH IN H9c2

Wei-Fen Hu, Kun-Ta Yang
Master Program in Physiological and Anatomical Medicine, School of Medicine, Tzu Chi University, Hualien, Taiwan

Objective: Intermittent hypoxia (IH) is characterized by cyclic episodes of hypoxia of short duration followed by normoxia. IH occurs in many physiological and pathophysiological conditions, such as athlete, pregnancy, asthma and obstructive sleep apnea. Hypoxic stress is one such process during which autophagy often serves as an important mediator. Furthermore, autophagy is also activated in desmin-related cardiomyopathy and is an adaptive response to protein aggregates in this proteotoxic form of heart disease. Previous studies suggest that autophagy can protect cells by avoiding accumulation of misfolded proteins, which are generated in response to I/R injury. The objective of this study is to determine whether IH-induced autophagy can attenuate endoplasmic reticulum stress and cell death.

Materials and Methods: In this study, we used H9c2 underwent IH in an incubator with an oscillating O2 concentration between 4% and 20% every 60 minutes for 1-4 days. Treatments with thapsigargin (Gt, 1 μM), curcumin (Cur, 35 μM), hydrogen peroxide (H2O2, 100 μM) to induce ER stress. The autophagy and ER stress-related proteins (LC3B, GRP78, CHOP, p-eIF2, ATF4, cleaved ATF6, p-IRE1) level were detected by western blotting assay. The cell survival was detected by MTT assay.

Results: Our results showed that autophagy-related protein expression increased in 1-3 day but ER stress-related protein decreased in the second day after IH condition. Moreover, we used thapsigargin, curcumin, H2O2, to induce ER stress. After 24 hours treatment, ER stress-related proteins level increased. However, the ER stress-related proteins level decreased and cell survival was recovered in IH condition.

Conclusions: Acute IH induced autophagy as an adaptive response against ER stress, it promotes cells survival to limit ER stress-caused injury.

NDP-11: OUTDOOR TIME AND PHYSICAL ACTIVITY IN RELATION TO MYOPIA PREVENTION AND CONTROL: AN UPDATE

Yung-Ching Chang1,2, Cheng-Jen Chiu1,2
1Department of Ophthalmology, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan; 2School Medicine, Tzu Chi University, Hualien, Taiwan

Objective: Myopia is a significant public health problem in the world, especially in East Asia. Outdoor time and physical activities are considered to reduce the risk of developing myopia. The objective of this study is to make a new and brief
review regarding the association between outdoor time, physical activity and myopia.

**Materials and Methods:** A systemic review of relevant evidence from literature was conducted. PubMed/Embase and Embase were searched for relevant papers. Total 57 relevant papers was identified including two systematic review about association between outdoor time and myopia (studies before 30 December 2015), physical activity and myopia (studies before 26 February 2015), respectively. We collected recent literature studied after February 2015 and conducted an integrated review considering the interaction between outdoor time, physical activity and myopia status simultaneously.

**Results:** From the previous reviews, increasing outdoor time is an important factor associated with myopia rather than physical activity and protective effect of improved outdoor time for onset but not progression of myopia. Surveying the recent studies after 2015, one study revealed more outdoor activity time was not associated with slow myopia progression, while three other studies demonstrated outdoor activity effectively reduced myopia progression. Three studies revealed increased ultraviolet B radiation exposure was associated with reduced myopia but one study demonstrated outdoor activities with strong sunlight exposure may not be necessary for myopia prevention. Reviewing about time outdoors, blood vitamin D concentration and myopia status, five studies reported a negative association between the blood vitamin D status and the severity of myopia and two studies claimed the variations in the vitamin D receptor as potential risk factors for myopia development. A review literature assumed that blood vitamin D status may only serve as a biomarker of outdoor exposure, which is the real protective factor for myopia. There is still no association between physical activity and myopia development or progression in recent studies.

**Conclusions:** Interventions to prevent myopia would be based on time outdoors, rather than physical activity. Outdoor time could have protective effects of both onset and progression of myopia. Strong sunlight exposure may not be necessary for myopia prevention. Time outdoor may be a more important factor than sunlight exposure for myopia prevention.

**NDP-12:**

**THE ASSOCIATION BETWEEN BREASTFEEDING AND POSTPARTUM DEPRESSION AMONG TAIWANESE WOMEN IN A WOULD-BE ACADEMIC MEDICAL CENTER**

Hsiao-Chen Chiu, Jun-Chin Hsiao, I-Shiang Tzeng, Yin-Kuang Chang Department of Obstetrics and Gynecology, Taipei Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, New Taipei, Taiwan

**Objective:** The interaction between a mother and her newborn in the very first week is recognized as an essential period which can greatly affect the mother’s mental health as well as the physical and mental development of the children. Furthermore, among all the interactions between the mother and the baby, early breastfeeding is thought to be of vital importance. Our study is to determine the association between postpartum depression and the level of breastfeeding among Taiwanese women.

**Results:** From the previous reviews, increasing outdoor time is an important factor associated with myopia rather than physical activity and protective effect of improved outdoor time for onset but not progression of myopia. Surveying the recent studies after 2015, one study revealed more outdoor activity time was not associated with slow myopia progression, while three other studies demonstrated outdoor activity effectively reduced myopia progression. Three studies revealed increased ultraviolet B radiation exposure was associated with reduced myopia but one study demonstrated outdoor activities with strong sunlight exposure may not be necessary for myopia prevention. Reviewing about time outdoors, blood vitamin D concentration and myopia status, five studies reported a negative association between the blood vitamin D status and the severity of myopia and two studies claimed the variations in the vitamin D receptor as potential risk factors for myopia development. A review literature assumed that blood vitamin D status may only serve as a biomarker of outdoor exposure, which is the real protective factor for myopia. There is still no association between physical activity and myopia development or progression in recent studies.

**Conclusions:** Interventions to prevent myopia would be based on time outdoors, rather than physical activity. Outdoor time could have protective effects of both onset and progression of myopia. Strong sunlight exposure may not be necessary for myopia prevention. Time outdoor may be a more important factor than sunlight exposure for myopia prevention.

**Materials and Methods:** A cohort of 238 postpartum women who had initiated breastfeeding was recruited in the postnatal wards in Taipei Buddhist Tzu-Chi Hospital, a mother-and-baby friendly hospital. Self-report questionnaires were completed at 1 weeks postpartum, in which we used the Edinburgh Postnatal Depression Scale (EPDS) to screen for symptoms of depression.

**Results:** All the 238 postpartum women had started breastfeeding initially, and after 1 week, 40.8% of the participants were keeping exclusive breast feeding their children, while 4.2% of the participants experienced lactation failure and changed into exclusive formula feeding. The mean score of EPDS of all the participants was 5.99 (SD: 4.45) and 23.5% of the participants developed postpartum depression (i.e., EPDS ≥10). The results indicates that participants who experienced lactation failure were more likely to be depressed. In univariate level of analysis, the level of breastfeeding undertook among women was associated with postpartum depression status (P = 0.022). And through multivariate level of analysis, the odd ratios for postpartum depression were significantly higher among formula feeding women than breastfeeding women (OR:4.55 [CI: 1.624, 26.678]; P = 0.008).

**Conclusions:** Diminishing the challenges and difficulties with breastfeeding may help postpartum women improve their mental health and lower the risk of postpartum depression. Health care providers such as hospitals and authorities concerned should help postpartum women adjust their expectations about breastfeeding and ensure that they have accesses to appropriate professional breastfeeding assistance during the early postpartum period.

**NDP-13:**

**RUPTURE OF GRAVID UTERUS: A RETROSPECTIVE CASE-CONTROL STUDY OVER 12-YEAR PERIOD IN TAIPEI BUDDHIST TZU CHI HOSPITAL**

Hsuan-Shang Yen, Yi-Lin Chen, Yu-Hsiang Lee, Su-Cheng Huang, Yin-Kuang Chang Department of Obstetrics and Gynecology, Taipei Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, New Taipei, Taiwan

**Objective:** To improve the early evaluation and management in rupture of gravid uterus, we investigated our clinical experience over 12-year period in Taipei Tzu Chi Hospital to compare and report the difference of clinical parameters between rupture of a scarred and an unscarred uterus.

**Materials and Methods:** This retrospective case-control study was conducted by reviewing medical charts in Taipei Tzu Chi Hospital from May, 2005 to October, 2017. Among total 22962 delivered women, 6 women with uterine rupture were enrolled during this period. The study group was defined as women with uterine rupture of an unscarred uterus and the control group was those with a scarred uterus. Labor characteristics, maternal and neonatal outcomes will be compared and discussed.

**Results:** The incidence of uterine rupture in Taipei Tzu Chi Hospital was 0.026%. In 6 women with uterine rupture, there were 3 unscarred uterine rupture cases and 3 scarred with previous myomectomy. All cases received...
hysterorrhaphy, no hysterectomy was performed. The locations of rupture were all on the previous myomectomy scar in 3 control cases. Five of them were primigravida. Before uterine rupture, fetal distress and severe abdominal pain were presented during labor or induction in the study group but presented at admission in the control group. Risk factors such as macrosomic, malpresentation or abnormal placentation were absent in both groups. There was one neonatal death observed in the study group and one intrauterine fetal death diagnosed at admission in the control group. There was no mobility such as intraventricular hemorrhage or seizure noted in other 4 neonates.

Conclusions: During normal delivery, clinicians should be aware of symptoms such as fetal distress or severe abdominal pain, especially in pregnant women with past history of myomectomy.

NDP-14:
RECONSTRUCTION OF SUPERIOR VENA CAVA AND LEFT ATRIUM FOR RESECTION OF CARDIAC PHEOCHROMOCYTOMA: A CASE REPORT

Jenn-Yeu Song, Kuei-Ton Tsai, Chin-Yuan Hu, Ta-Chung Shen
Division of Cardiovascular Surgery, Department of Surgery, Taipei Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, New Taipei, Taiwan

Extra-adrenal pheochromocytomas are rare. Nearly 1% of pheochromocytomas are intrathoracic, they were almost found in the posterior mediastinum. Pheochromocytomas involving heart are extremely rare. We presented a case of cardiac pheochromocytoma that invaded into superior vena cava (SVC) and roof of left atrium (LA). Surgical resection of tumor and the defects of SVC and roof of LA were repaired with autologous pericardium. After the operation 1 year, magnetic resonance imaging (MRI) showed that normal appearance of thoracic aorta, SVC and cardiac chambers. In the literature, Jebara et al. reviewed 30 cases of cardiac pheochromocytomas that are most often found on the roof of LA. For the reasons of permanent cure and relief of symptoms, surgical excision of cardiac pheochromocytoma was indicated. Operation was performed on 25 patients. Before the operation, alpha- or beta-blockers were administered for careful anesthetic preparation. Median sternotomy was performed in 19 patients and lateral thoracotomy in 6 patients. Cardiopulmonary bypass was instituted in 17 patients. Hemodynamic instability and arrhythmias were noted in 6 patients due to intraoperative manipulation of the tumor. The most common complication of this operation is bleeding from tumor bed. According to the literature review, we controlled the blood pressure with beta-blocker before the operation. Surgical resection of the tumor was performed via median sternotomy with cardiopulmonary bypass support. The patient was discharged after the operation 8 days. The patient still remained asymptomatic one year later. Long term disease-free will be followed.

NDP-15:
SITUS INVERSUS TOTALIS AND ACUTE TYPE A AORTIC DISSECTION WITH LOW BODY MALPERFUSION

Kuei-Ton Tsai, Ta-Chung Shen

Division of Cardiovascular Surgery, Department of Surgery, Taipei Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, New Taipei, Taiwan

Situs inversus totalis (SIT) is a rare congenital anomaly in which the heart and abdominal organs are oriented in a mirror image of normal anatomy. Literatures have documented surgical patients in various conditions with SIT. However, a combination of SIT and acute type A aortic dissection with lethal malperfusion is never reported. Our surviving patient adds to this rarity. A 66-year-old man presented with acute chest pain, followed by abdominal pain, bilateral low limbs weakness and absent femoral pulses. CT angiography revealed SIT, dextrocardia, type A aortic dissection, hemopericardium and low body malperfusion. Arterial blood gas analysis before operation showed extreme metabolic acidosis (base access-16). Emergency surgery consisted of excision of the proximal dissected aorta including the whole primary intima tear, which extended to aortic arch between left innominate artery and right common carotid artery, with aortic graft reconstruction and left innominate artery reimplantation. The surgeon on the left side of the table performed most of the main procedures. The patient had a stormy postoperative course mostly from systemic malperfusion involving multiple organs before operation. Eventually he survived and recovered from all these complications but paraplegia due to spinal cord infarction. A postoperative CT scan confirmed a good result. SIT with dextrocardia and right-sided aortic arch may present unique challenge to cardiac surgeons, especially when it comes in a devastating acute type A aortic dissection with low body malperfusion. Although the rarity of this combined situation, cooperation between experienced cardiac surgeons can manage without event.

NDP-16:
USING CENTRIMAG LEFT VENTRICULAR ASSIST DEVICES AS A BRIDGE TO HEART TRANSPLANTATION: INITIAL EXPERIENCE FROM A SINGLE HOSPITAL

Ta-Chung Shen, Kuei-Ton Tsai, Chin-Yuan Hu, Jenn-Yeu Song
Division of Cardiovascular Surgery, Department of Surgery, Taipei Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, New Taipei, Taiwan

Objective: The Centrimag left ventricular assist device (LVAD) is designed for short-term (30 days) use in critical heart failure as a bridge to recovery, to decision, to a permanent assist device, or to heart transplantation. We started our heart transplantation program in 2009 and VAD program in September, 2011. The present study reported out initial experience and preliminary results using Centrimag as a bridge to heart transplantation.

Materials and Methods: From September 2011 to December 2017, twelve patients with end-stage heart failure and INTERMACS 1–3 had Centrimag LVAD implantation as a bridge to heart transplantation in our hospital. Another patient had his LVAD implanted in a nearby hospital and was referred to us for heart transplantation. All patient including the referred one had his/her LVAD implanted using a home-made skirted cannula technique, which we’ve reported previously. There

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were eleven male and two female patients. The average age was 52.2 ± 8.4 (37–64) years old. As a retrospective study, the medical records were reviewed and the results will be reported.

**Results:** One patient had acute myocarditis, five patients had dilated cardiomyopathy, and seven patients had ischemic cardiomyopathy. All patients were in critical heart failure and were in INTERMACS 1–3. Seven patients had been supported either with IABP, ECMO, or both prior to implantation of Centrimag. All patients had had continuous inotropes prior to LVAD implantation. Every patient had a technically successful implantation procedure and no patient had re-exploration for bleeding. The only female patient diagnosed as acute fulminant myocarditis suffered post-implant right ventricular failure and needed biventricular support. Two patients (15%), including the lady with acute fulminant myocarditis, died because of pre-existing and continuing multiple organ failure (MOF) on the 6th and the 7th day respectively after implantation. Ten patients (77%) were transplanted successfully, while a 53-year-old man (7.7%) died because of severe sepsis after he had been transplanted. The average supported duration was 56 ± 54.4 (6–191) days, and nine patient were supported for longer than 30 days. Amongst the patients who survived LVAD implantation, nine patients could ambulate and attend rehabilitation program, and one patient was too weak to ambulate but did have some bed-side rehabilitation. No patient had late bleeding from the cannulation site or dislodge of cannulae. There was no cannulation site or systemic infection related to LVAD. Two patients had minor thromboembolic events and one patient had gastrointestinal bleeding. The three patients were managed conservatively and there was no major sequelae. Clinically significant hemolysis was not encountered.

**Conclusions:** From our limited initial experience, we concluded that Centrimag LVAD is a safe and durable short- to mid-term bridge to heart transplantation. Early implantation is recommended to prevent irreversible MOF. Device-related complications are uncommon and often can be managed successfully. Strict aseptic technique is required to prevent infection. Meticulous management of anticoagulation protocol is of paramount importance to prevent thromboembolic events.

**NDP-17: PRIMARY LEIOMYSARCOMA OF THE KIDNEY: A CASE REPORT AND THE REVIEW OF THE LITERATURE**

Yi-Sheng Chen, Cheng-Hsing Hsieh
Department of Urology, Taipei Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, New Taipei, Taiwan

**Objective:** Primary sarcomas of kidney are rare tumors, only 1%–2% of all malignant tumors of kidney. Among these, leiomyosarcoma is the most common histological subtype. The signs and symptoms associated with renal sarcoma in adults were palpable mass, abdominal/flank pain and hematuria, which mimicking renal cell carcinomas. It is really a challenge for making diagnosis depending on clinical condition, laboratory data, and radiological examination. We describe an case of a 71-year-old man, with renal leiomyosarcoma that underwent partial nephrectomy surgery. Current literature are reviewed for current diagnosis and treatment.
difference in GAP43, TGF-β, TrK-A and BDNF and the similar outcomes revealed between normal and severe KC group. In compared with mild KC and severe KC, there were only TGF-β and TrK-A revealed statistical differences [Table 1 and Figure 1]. In correlation analysis, there were significant differences between (1) GAP-43 and NGF, TrK-A, (2) TGF-β and TrK-A, TrK-B, (3) TrK-A and TrK-B and (4) TGF-β and CBC. The IHC of S-100 protein revealed 14/16 KC patients were S-100 positive.

Conclusions: Among the neurotrophin and its receptors we had investigated, GAP-43, TrK-A and BDNF were significantly higher in severe KC group. The TGF-beta was also higher in the severe KC bladder than that in mild KC and control. Trk-A, GAP-43, BDNF and TGF-beta may play an important role in the pathogenesis in KC, and may lead to disease progress to severe KC.

NDP-19: HIGH INCIDENCE OF URODYNAMIC DISORDERS WOMEN WITH RECURRENT BACTERIAL CYSTITIS: A VIDEOURODYNAMICS STUDY

Ping-Jui Lee, Hann-Chorng Kuo
1Department of Urology, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan; 2School of Medicine, Tzu Chi University, Hualien, Taiwan

Objective: Recurrent urinary tract infections (rUTIs) are one of the most common problems in outpatient clinics that should not be underestimated. The etiology of rUTIs is not fully understood. Reference to voiding dysfunction causing rUTIs are infrequent. Patients with lower urinary tract dysfunction (LUTD) tend to have abnormal voiding patterns and large post-void residual volume. The impaired bladder emptying function may plays an important role in urothelial barrier dysfunction, increasing the susceptibility to bacteria colonization and the risk of UTIs. This study aimed to evaluate the urodynamic disorders identified by video-urodynamic in women with rUTIs. Also investigating the incidence rate and treatment outcome after individualized treatment.

Materials and Methods: Over a 20-year retrospective study period, 98 female patients with rUTIs underwent VUDS in our hospital were included. All the underlying disease, urine analysis reports, urine cultures, the results of VUD findings and the treatment outcome of voiding dysfunction were carefully reviewed and analyzed.

Results: Of the 98 female patients with recurrent UTIs, the mean age was 64.2 ± 15.6 years. V oiding dysfunctions were found in 89 (90.8%) of them, including bladder neck dysfunction in 19 (19.4%), detrusor hyperactivity with impaired Table 1: The quantification results of Western blotting in normal, mild ketamine cystitis and severe ketamine cystitis patients

|       | A. Normal (n=3) | B. Mild KC (n=6) | C. Severe KC (n=13) | P A Vs B Vs B Vs C | P B Vs C |
|-------|-----------------|-----------------|---------------------|-------------------|---------|
| GAP43 | 0.81±0.35       | 1.08±0.56       | 1.61±0.49           | 0.037             | 0.35    |
| TGF-β | 0.32±0.08       | 0.05±0.03       | 1.51±0.55           | 0.000             | 0.020   |
| TrK-A | 0.16±0.08       | 0.07±0.03       | 0.76±0.55           | 0.000             | 0.262   |
| TrK-B | 0.17±0.11       | Not detected    | 0.18±0.12           | 0.946             | -       |
| NGF   | 0.51±0.12       | Not detected    | 0.63±0.44           | 0.459             | -       |
| BDNF  | 0.08±0.09       | Not detected    | 0.33±0.44           | 0.33±0.23         | 0.09    |

KC: Ketamine cystitis

Figure 1: The sensory receptors and related protein in normal, mild KC and severe KC patients. KC: Ketamine cystitis

Figure 1: The video urodynamic tracings of (a) normal (b) dysfunctional voiding, (c) poor relaxation of external sphincter, (d) detrusor underactivity, (e) bladder neck dysfunction, (f) detrusor overactivity and urethral stricture
contractile function in 10 (10.2%), detrusor overactivity in 37 (37.8%), detrusor underactivity in 20 (20.4%), dysfunctional voiding in 24 (24.5%), hypersensitive bladder in 22 (22.4%), and poor relaxation of external sphincter in 19 (19.4%). Only 9 (9.2%) patients had normal urodynamic tracings [Figure 1]. Compared with the control group, voiding dysfunctions in women with recurrent UTIs have significant smaller cystometric bladder capacity (338.2 ± 138.0 mL), Qmax (11.9 ± 7.6 mL/s), corrected Qmax (0.6 ± 0.4 mL/s), voided volume (223.5 ± 139.9 mL), and significant higher Pdet (23.1 ± 19.0 cmH2O), and PVR (119.3 ± 141.0 mL/s) [Table 1]. Only 6 (6.1%) patients with rUTIs were totally free from urinary tract infection after VUDS followed by individualized treatment.

Conclusions: High incidence of urodynamic disorders was identified in women with rUTIs. Despite detailed VUDS followed by individualized treatment, only few patients could be free from urinary tract infection. Namely, it is insufficient to cure rUTIs by treating urodynamic disorder only.

NDP-20: CHANGE OF DETRUSOR CONTRACTILITY IN PATIENTS WITH AND WITHOUT BLADDER OUTLET OBSTRUCTION AFTER OVER TEN-YEAR FOLLOW-UP

Sheng-Fu Chen1,2, Hueih-Ling Ong1, Yu-Khun Lee1, Hann-Chong Kuo1,2 1Department of Urology, Huaiian Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Huaiian, Taiwan; 2School of Medicine, Tzu Chi University, Huaiian, Taiwan

Objective: Detrusor contractility is believed to decrease with time. However, longitudinal study of the detrusor contractility after long-term follow-up is rare. This study investigated a cohort of male and female patients who had urodynamic study at baseline and more than 10 years later.

Materials and Methods: A total of 166 patients (49 men and 117 women) without bladder outlet obstruction (BOO) and 63 patients (54 men and 9 women) proven to have BOO who had received urodynamic study at baseline and >10 years later. Patients who had neurogenic voiding dysfunction, previous pelvic surgery, who underwent lower urinary tract surgery or bladder lesions receiving treatment during the follow-up period were excluded. The urodynamic parameters including bladder first sensation of filling (FSF), full sensation (FS), urge sensation (US), cystometric bladder capacity (CBC), compliance, maximum flow rate (Qmax), detrusor pressure at Qmax (Pdet), voided volume, postvoid residual volume (PVR), bladder contractility index (BCI), and BOO index (BOOI) were compared between baseline and >10 years later.

Results: The changes of urodynamic parameters between baseline and >10 years later revealed that Pdet was significantly decreased and PVR was significantly increased in men and women. FS, US, and voided volume were significantly decreased. BCI was also significantly decreased in men and women [Table 1]. When we compared the 49 men without BOO and 54 men with BOO, decrease of Pdet, Qmax, voided volume, postvoid residual volume (PVR), bladder contractility index (BCI), and BOO index (BOOI) were compared between baseline and >10 years later.

Table 1: The findings of video-urodynamic study in women with recurrent urinary tract infections

| Videourodynamic findings in 98 women with recurrent bacterial cystitis | Normal | Urodynamic disorder (n=89) |
|---|---|---|
| FS (mL) | 151.1±67.4 | 189.8±58.4 | 153.1±77.0 | 122.0±59.8* |
| FS (mL) | 239.1±98.2 | 283.0±129.3 | 229.0±84.6 | 177.3±95.9* |
| CBC (mL) | 318.2±167.0 | 362.7±169.0 | 351.0±88.2 | 285.2±138.5* |
| Pdet (cm H2O) | 15.4±9.0 | 24.8±24.6 | 16.4±9.7 | 30.9±23.0* |
| Qmax (mL/s) | 8.6±6.45* | 3.8±5.5* | 9.8±7.4* | 0.6±0.4* |
| Volume (mL) | 287.1±122.6* | 167.7±120.8* | 129.0±134.9* | 145.2±110.4 |
| PVR (mL) | 31.1±65.2 | 203.6±196.7* | 222.0±146.2* | 143.8±159.0 |

*Means significant difference compare to control group, P<0.05. BND: Bladder neck dysfunction, CBC: Cystometric bladder capacity, cQmax: Corrected maximum flow rate, DHIC: Detrusor hyperactivity with impaired contractile function, Qmax: corrected maximum flow rate, DO: Detrusor overactivity, DU: Detrusor underactivity, DV: Dysfunctional voiding, FS: Full sensation, FSF: First sensation of filling, HSB: Hypersensitive bladder, Pdet: Detrusor pressure at maximum flow rate, PRES: Poor relaxation of external sphincter, PVR: Postvoid residual, Qmax: Maximum flow rate

Table 1: The changes of urodynamic parameters between baseline and >10 years later

| Male (n=49) | Female (n=117) | P |
|---|---|---|
| FS (mL) | 120.59±57.31 | 133.56±61.98 | 0.982 |
| FS (mL) | 120.76±65.15 | 134.01±67.54 | 0.427 |
| US (mL) | 214.31±97.33 | 23.11±14.1 | 0.070 |
| CBC (mL) | 327.14±131.02 | 341.7±152.4 | 0.224 |
| Compliance | 64.32±76.59 | 79.61±83.03 | 0.965 |
| Pdet (cm H2O) | 42.35±26.51 | 23.11±14.1 | 0.070 |
| Qmax (mL/s) | 30.57±15.07 | 17.88±13.18 | 0.256 |
| Volume (mL) | 295.41±140.26 | 305.1±139.33 | 0.265 |
| PVR (mL) | 31.73±42.52 | 36.58±78.1 | 0.644 |
| BCI | 103.67±42.29 | 99.49±46.39 | 0.041 |
| BOOI | 18.22±27.28 | 6.14±24.78 | 0.043 |

BOOI: BOO index, BCI: Bladder contractility index, PVR: Postvoid residual, Pdet: Detrusor pressure, CBC: Cystometric bladder capacity, FS: Full sensation, FSF: First sensation of filling, Qmax: Maximum flow rate, BOO: Bladder outlet obstruction
Table 2: The changes of urodynamic parameters between men with and without bladder outlet obstruction >10 years later

|                | Men BOO (n=54) | Men non-BOO (n=49) | P     |
|----------------|----------------|-------------------|-------|
| Pdet (cm H2O)  |                |                   |       |
| Baseline       | 55.6±27.4      | 42.4±26.5         | 0.867 |
| >10 years      | 42.9±27.3      | 30.6±15.1         |       |
| Qmax (mL/s)    |                |                   |       |
| Baseline       | 10.1±4.07      | 12.3±5.52         | 0.585 |
| >10 years      | 6.87±4.31      | 8.43±4.09         |       |
| Volume (mL)    |                |                   |       |
| Baseline       | 264±129.6      | 294.5±140.3       | 0.619 |
| >10 years      | 157.3±102.3    | 203.3±123.3       |       |
| PVR (mL)       |                |                   |       |
| Baseline       | 41.1±56.02     | 31.7±6.07         | 0.036 |
| >10 years      | 103.3±130.1    | 54.1±10.9         |       |
| BCI            |                |                   |       |
| Baseline       | 105.9±32.5     | 103.7±6.04        | 0.577 |
| >10 years      | 77.3±35.2      | 70.7±3.81         |       |
| BOOI           |                |                   |       |
| Baseline       | 35.3±29.5      | 18.2±3.90         | 0.714 |
| >10 years      | 29.2±28.4      | 14.37±2.59        |       |

BOOI: BOO index, BCI: Bladder contractility index, PVR: Postvoid residual, Pdet: Detrusor pressure, Qmax: Maximum flow rate, BOO: Bladder outlet obstruction

volume, and BCI were significantly decreased in both groups. PVR was also significantly increased in both groups and was significantly greater in men with BOO after >10 years (P = 0.036) [Table 2].

Conclusions: Detrusor contractility decreases in men and women after >10 years follow-up. The decrease of detrusor contractility was similar between men with and without BOO. PVR was significantly increased in men with BOO after >10 years, suggesting a greater degree of urethral resistance in men with BOO after >10 years.

NPD-22:

COMMON PERONEAL NEUROPATHY CAUSED BY THE FABELLA: CASE REPORT AND LITERATURE REVIEW

Yi-Hsuan Lee1, Chung-Ting Wu2, In-Ho Chen3

1Department of Orthopedics, Taipei Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, New Taipei, Taiwan; 2Department of Orthopedic Surgery, Cathay General Hospital, Taipei, Taiwan; 3Department of Orthopedics, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan

Objective: Common peroneal nerve palsy is the most common entrapment neuropathy in the lower extremities because of the anatomical characteristics, various etiologies have been identified. It may be underdiagnosed due to unfamiliarity with peroneal entrapment or lack of an obvious source of compression. In this article, we present a rare case of common peroneal palsy secondary to compression by the fabella, and review the literature for its anatomical characteristics, clinical features and management.

Materials and Methods: We encountered a 79-year-old woman who presented with progressive numbness and a tingling sensation in the lateral calf and dorsum of the foot. Besides, she had also been frequently spraining her ankle. She reported no history of similar symptoms or recent trauma, no lower back pain, and no urinary or fecal incontinence. Physical examination showed decreased muscle strength (to 1/5) of the leg due to pseudoarthrosis, and review the literature for its anatomical characteristics, clinical features and management.

Materials and Methods: This 10 y/o girl presented with left arm neurofibroma, left leg anteromedial bowing, leg length discrepancy (left leg shortening 2.7 cm), and left ankle valgus deformity. Pseudoarthrosis of left fibula with 45° angulation of left tibia, and left ankle 43° valgus deformity were noted. The deformity was corrected via hinged Ilizarov ring frame lengthening with distraction and callotasis for 3.5 months. Final union was achieved with plating. Recurrence of ankle valgus deformity was noted during followup. Guided growth with application of 8-plate on medial aspect of distal tibial physis was undertaken.

Results: The Orthofix 8-plate was applied on medial aspect of distal tibial physis at the age of 11y11m. The ankle valgus deformity has been under control after followup of 18 months. The longterm result is promising.

Discussion: The management of congenital pseudoarthrosis of fibula has been relied on recommendations for treatment based on small case series. Residual valgus deformity and nonunion have been the major longterm problems. Distal tibiofibular synostosis, fibular bone grafting, and Ilizarov fibular transport had been reported. In this case, guided growth on distal tibial physis seems to be a simple and effective method to control the progression of the deformity.
the distal sciatic nerve, the sciatic nerve bifurcation, and the common peroneal nerve that crosses the fibular neck and enters the lateral compartment of the lower leg. Indentation, atrophy and petechial change of the common peroneal nerve were identified just distal to sciatic nerve bifurcation. Underneath was a hard, upward bulging fabella embedded in the lateral gastrocnemius tendon [Figure 2]. The fabella was excised and measured 1.6 cm × 2.0 cm × 1.5 cm [Figure 3]. Dissection upward and downward along the peroneal nerve was performed to decompress any possible entrapment. A joint capsule defect was repaired, and we applied 2 cc Triamcinolone Acetonide (50 mg/5 mL/vial) to reduce inflammation before wound closure.

**Results:** After surgery, alleviation of numbness and tingling sensation in calf and foot was noted at 12 hours post-operatively, the patient could finally sleep well at night without disturbance. A rehabilitation program including use of an ankle-and-foot orthosis, electrical stimulation, and muscle power training was continued. At the 9th month postoperatively, fully recovery of both sensory and motor deficit was noted.

**Conclusions:** We present a case of compressive peroneal neuropathy caused by the fabella, which is rare, with only nine previously published articles found. In this case, we performed a serial of detailed and integrated examinations including physical, neurological, and image studies for differential diagnosis and localization of the lesion. This is crucial in diagnosing such a rare disease. Also in our experience, we suggest prompt surgical exploration and release/remove the source of compression once the diagnosis has been confirmed. Conservative treatment is with little value in treating compressive neuropathy. Whenever a patient presents with drop foot, compressive neuropathy by fabella should always be taken into consideration. Size, location, and geometric characteristics of the fabella are important factors causing compression. EMG, NCV and MRI are crucial investigations for differential diagnosis and preoperative targeting. Prompt surgical management provided favorable outcomes and early recovery.

**NDP-23:**
THE KINEMATIC CHANGE IN PATIENTS AFTER ARTHROSCOPIC CARTILAGE REGENERATION FACILITATING PROCEDURE FOR TREATMENT OF OSTEOARTHRITIS IN KNEE JOINTS

Shuo-Suei Hung1, Chuan-Hsin Yen2, Shaw-Ruey Lyu3
1Department of Orthopedics, Taipei Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, New Taipei, Taiwan; 2Department of Physical Therapy and Assistive Technology, National Yang Ming University, Taipei, Taiwan; 3Joint Center, Dalin Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Chiayi, Taiwan

**Objective:** Treatment of osteoarthritis depends on the severity of cartilage destruction, ranging from physical therapy, oral pain killers, intra-articular injections, to total joint replacements. The role of arthroscopic surgery is still controversial, and Lyu found a satisfactory rate of 85.5% at 3 years after arthroscopic cartilage regeneration facilitating procedure (ACRFP), and an improvement of knee society score from 8 to 50. In spite of numerous published literatures regarding the clinical responses, there is no yet studies regarding the kinematic influence after such surgical procedure. The objective of this study is to assess the kinematic change in terms of gait and foot pressure, in patients after receiving ACRFP for treatment of chronic knee pain due to osteoarthritis.

**Materials and Methods:** A total of 8 patients completed preoperative and 3 month postoperative study, and 5 patients completed preoperative and 6 months postoperative study. Linear Platforms® (DIA SU Health Technologies) was used to measure the gait and foot pressure. The patients were asked to walk back and forth on the platform, and data was
recorded. The pressure foot print was then divided into six regions, which were forefoot lateral/medial, midfoot lateral/medial, and hindfoot lateral/medial. Wilcoxon signed-rank test was used for statistic evaluation, and this study had been approved by the institute of review board from our hospital.

**Results:** At 3 months postoperatively, the foot pressure was found to have decreased in all six area, with lateral foot being more than medial foot, and this phenomenon becomes more consistent at six months postoperatively, with an average reduction of 15.9% over left lateral foot, 7.6% over left medial foot, 12.5% over right lateral foot, and 7.7% over right medial foot.

**Conclusion:** Saito, et al suggested that patients with medial knee osteoarthritis exhibited low pressure on the heel and hallux due to limited knee motion, and Ferrigno, et al pointed out that knee adduction moment is reduced as the plantar pressure is shifted medially, subsequently decreasing the contact pressure over medial aspect of knee joints. In our study, the patients were found to have a shift of the foot pressure from lateral to medial aspect of the foot after the arthroscopic cartilage regeneration facilitating procedure, which indirectly indicated that the knee adduction moment in these patient have decreased after the surgery, subsequently could reduce the loading over medial knee joint, which may be beneficial for osteoarthritis of knees. There are some drawbacks in this study. The patient sample is too small, and the study is too short, however, we believe that ACRFP is beneficial to the knee joint, although longer period of follow-up, with larger population size is needed.

**NDP-24:**
**CROSS FINGER POCKETPLASTY TO TREAT FINGERTIP AMPUTATION OF THUMB: A CASE REPORT**

Chia-Jung Hu  
Department of Orthopedics, Taipei Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, New Taipei, Taiwan

Treatment of fingertip amputation distal to nail fold is challenging. Vascular anastomosis may be extremely difficult at this level. Non-microsurgical treatment, including composite graft, cross finger flap, V-Y flap, groin flap, and distant flaps from the palmar region, could be used to restore digital length. Subdermal pocket procedure, as a modification of pocketplasty, has been offered to enhance venous drainage and to increase survival rates of composite graft, especially in adult patients (from 50% to 94%). However, burying fingers in ipsilateral or contralateral abdominal is suffering for patients. In this study, we presented a cross finger pocketplasty as a modified subdermal pocket procedure to increase patient comfort. A 28-year-old male was sent to our emergency department due to a guillotine injury of right thumb at the level of mid-nail bed (Allen zone III and Hirase zone I). The patient could not accept bury his fingers in abdomen and requested to preserve his finger length if possible. Neither an artery nor a vein of the fingertip was available during initial dissection. The volar stump was deepithelized to part of the dermis layer. Amputated fingertip was reattached as composite graft and nail bed was repaired. The subdermal pocket was designed in the middle phalanx of middle finger, with two skin flaps opened along the axis of the finger. The reattached finger pulp was placed in direct contact with the dermis of the pocket, and the skin flaps were sutured to paraungual area [Figure 1]. Once daily local heparin was injected at fingertip due to venous congestion since postoperative day 1 (5000 IU/5 mL for 9 days). The fingers were divided 9 days after index surgery. Full thickness skin graft harvested from two skin flaps were applied to donor site. The finger pulp secondarily healed with eschar formation in the 3rd week. Eschar dropped off in the 9th week. Range of motion of middle finger was the same as the other hand [Figure 2].
Discussion: Cross finger pocketplasty improved comfort for patient. Finger flexes less in this procedure than burying in the thenar area. For donor site selection, we chose middle finger instead of index finger to prevent impairment of key pinch. However, cross finger pocketplasty seems to limit its usage to thumb amputation owing to the nature of finger alignment. Mild venous congestion was noted during the follow-up period and the drainage ability may not be as good as the results of the subdermal pocket procedure. A large scale should be performed to evaluate the survival rate of cross finger pocketplasty. Though many limitations above, cross finger pocketplasty may be an alternative method to treat selected patients.

NDP-25: LAPAROSCOPIC LIVER RESECTION FOR HCC IN THE POSTERIOR AND SUPERIOR SEGMENTS (S6/7/8) VIA 3-PORT TOTAL ABDOMINAL APPROACH: A SINGLE INSTITUTE EXPERIENCE

Yen-Chih Chen, Chieh-Wen Lai, Jia-Hui Chen, Kian-Hwee Chong, Ping Ho, Chao-Hsu Li, Yao-Jen Chang, Sen-Chang Yu, Chao-Chuan Wu
Division of General Surgery, Department of Surgery, Taipei Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, New Taipei, Taiwan

Objective: To evaluate the safety and efficacy of laparoscopic liver resection for hepatocellular carcinoma in posterior and superior segments via 3-port total abdominal approach without assisted transthoracic trocars.

Materials and Methods: The study enrolled 34 men and 11 women who suffered from HCC in the posterior segments and received total 50 operations for posterior and superior segments between January 2010 and September 2017. Among them, 16 patients received 20 operations with laparoscopic approach. We analyzed the clinical data of 16 patients (20 operations, n=20) who underwent laparoscopic liver resection with total abdominal approach for hepatocellular carcinoma (HCC) and compared outcomes with patients who underwent laparotomy surgery (29 patients and 30 operations, n=30).

Results: There was no significant difference of gender, ASA grading, tumor size between the laparoscopic group and laparotomy group. But the age of laparoscopic group was significantly higher than laparotomy group (66.7 vs 59.3, p=0.036). There was no significant difference in operation time and blood loss between two groups, but the postoperative hospital stay was significantly lesser in laparoscopic group (5.45 vs 10.03, p<0.001). There were no deaths or major complications in both groups. Two complications occurred in laparoscopic group, which were managed by conservative treatment and antibiotic use. Five complications in laparotomy group, 2 with pneumonia and 3 with intraabdominal abscess, which were managed with percutaneous drainage. There was no conversion to laparotomy.

Conclusions: In our series, laparoscopic resection of liver tumors located in the posterior and superior segments via 3-ports total abdominal approach is technically feasible and safe with short-term result, even in older patients.
D21. CGM implantation promoted cells with immunoreactivity of MMP-2 and MMP9 in the LBZ of surgical brain lesions. **Conclusions:** This report demonstrates that implantation of CGM following surgical brain injury motivates neurogenesis, and this reaction is accompanied by a significant increase in extracellular metalloproteinases. This reveals that a significant increase in MMP2 and MMP9 is involved in neurogenesis correlating activities. This study verifies the association between MMP2 and MMP9 and neurogenesis following CGM implantation after surgical brain trauma.

**NPD-27:**  
**A STEPWISE APPROACH TO CONFLICT RESOLUTION: EXPLORATION OF THE IMPACT OF A NOVEL COMMUNICATION CURRICULUM AMONG UNDERGRADUATE STUDENTS**  
Wen-Lin Lo1,2,3, Yu-Hsien Lai2,4, Li-Chuan Kuo1,5  
1Division of General Internal Medicine, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan; 2Department of Medical Education, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan; 3School of Medicine, Tzu Chi University, Hualien, Taiwan; 4Division of Nephrology, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan; 5Department of Medical Humanities, School of Medicine, Tzu Chi University, Hualien, Taiwan

**Objective:** The trend of practicing medicine has gradually changed from physician centered to interdisciplinary and interprofessional care. Therefore, collaboration among various healthcare professionals has become paramount in optimal patient care. Recent studies have shown that teamwork, communication and management are important skills which could be taught in the undergraduate curriculum. However, such training was only offered in a few medical schools. In our medical school, communication curriculum include basic principles of communication skills, interprofessional learning and medical disputes. Advanced skill on conflict resolution was initiated as part of the curriculum since 2017. Conflict resolution skills are crucial in medical practice as conflict and mis-communication may lead to unfavorable outcome on decision-making which may subsequently affect patient care. This study aims to assess the impact and transference of a course on conflict resolution among 3rd year medical students.

**Materials and Methods:** A three and half hour workshop on conflict resolution skills was designed for 3rd year medical students. The workshop consisted of self-assessment using questionnaire, didactic lectures, small group discussion and role play. A total of 52 students participated. Data was collected from students’ reflective assignment on the application of conflict resolution skills.

**Results:** Qualitative data using thematic content analysis revealed that students’ reaction to the course was mainly positive. Many students found self assessment of their personal communication style to be helpful in high stake communication. Most students were able to apply skills such as differentiating from facts from story. As undergraduate students, most students applied the skills in the context of conflict among family members, peers and roommates. Many students expressed their concern in lack of clinical placements and future application of such skills in medical practice.

**Conclusions:** Most students were able to apply conflict resolution skills in non-clinical context. Future studies should follow up longitudinal impact of the course in clinical setting.

**NPD-28:**  
**WHAT IS THE BEST WAY TO TEACH EVIDENCE-BASED MEDICINE IN RESIDENCY? A SYSTEMATIC REVIEW**

Pei-Chun Lai1,2,3, Tsung-Ying Chen1,3  
1Department of Pediatrics, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan; 2Department of Medical Education, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan; 3School of Medicine, Tzu Chi University, Hualien, Taiwan

**Objective:** Evidence-based medicine (EBM) has been widely accepted and integrated into health education in the past 2 decades. But, understanding and skills related to EBM among health professionals are still inadequate. Under the clinical busy condition, introducing EBM into residency training remains a problem. Besides, it is not clear what kind of education strategies of EBM training is best for residents. Thus, we performed a systematic review to clarify the optimal teaching methods in residency.

**Materials and Methods:** We searched the PubMed database for the period of 1996 till 2017. MeSH terms and free-text keywords were used. Studies were analyzed and evaluated by title and abstract. The studied sample was limited to medical residents. We only included randomized trials articles and analysed the results. Main outcomes included knowledge, skills, attitudes and behavior towards EBM.

**Results:** Total 1910 articles were retrieved from the database. After removing articles that did not meet the inclusion criteria, 7 articles enrolled. 4 in these 7 articles use computer based or e-learning as intervention strategies. Control group included workshop, lecture, journal club, or self-EBM learning course. The results showed an e-learning course in EBM was as effective as control group (n=3). One in these 4 studies concluded that e-learning curriculum resulted in higher knowledge and skills. Other 3 articles in these 7 conduct EBM simulated curriculum (n=1), EBM workshop (n=1) and EBM rotation course (n=1). Compared to controlled groups, knowledge improved in EBM simulated curriculum and EBM rotation course, but there was no difference in the workshop study.

**Conclusions:** There are multiple ways to teach EBM in residency according to prior articles. Promoting EBM via electrical device or web is on the rise. The e-learning program is as effective as traditional lecture or workshop. Aside from e-learning, EBM curriculum or rotation course might help. Further study is required.

**NPD-29:**  
**ENHANCE PATIENTS’ SATISFACTION OF MEDICAL AND NURSING SERVICE IN EMERGENCY DEPARTMENT VIA SERVICE PROCESS CHANGES**

Fei-Lin Kao, Chun-Chao Huang, Pi-Chieh Tsai  
Department of Nursing, Taipei Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, New Taipei, Taiwan
Objective: Patients’ satisfaction rate of medical visits in emergency room setting was 81.6%, nursing service was 88.48%, and general service was 85.56% in March 2016. In order to enhance patient satisfaction, service process need to be changed. The aims are to increase patients’ satisfaction of medical service reaches 85%, nursing service and general service reaches 90%.

Materials and Methods: A focus group conducted in May 2016 with process improvement: add triage nurse from one to two, and adjust triage work content: active reception in the triage and registration process, introduce the environment and treatment procedures, advance notification of waiting time and schedule beds, etc.

Results: An emergency service satisfaction survey was conducted in October 2016. The patient satisfaction rate for emergency medical service increased from 81.6% to 85.9%, and nursing service was 89.89% to 93.03%. Furthermore, general service was from 85.56% to 90.26%.

Conclusions: Due to service process changes, patient has an added benefit to the visits and the satisfaction of the medical staff. Follow-up can be considered for other processes or environmental changes, to offer continuous improvement of patient services to promote patient satisfaction during emergency medical treatment.

NDP-30:
ANALYSIS OF ELEMENTARY TEACHER SIMULATION LESSON PLANS
Wen-Ling Lo1, Wei-Chun Cheng2
1Department of Chest Section, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan; 2Department of Medical Education, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan

Objectives: The emphasis on the safety of patient care and clinical medical education has stimulated the development of simulation teaching. Through the usage of the lung compliance multipurpose patient simulator and simulated environments, we can encourage the clinical teachers to write up teaching plans. At the same time, we will explore the possibility of incorporating the core abilities guideline for training respiratory therapists into the teaching plan. Through this way, we hope to help clinical teachers to understand the goals of the teaching plan.

Materials and Methods: A workshop was set up based on the introduction of the invasive mechanical ventilator, introducing HAL S3201 lung compliance patient simulator and writing up teaching place for simulation. The participants were clinical respiratory therapists. These participants were divided into groups to learn and to interact how to write up the teaching plans. The participants would learn to analyze how the teaching experience and the contents of teaching plans had followed the guidelines intended for the 2-years training courses for respiratory therapists as demanded by the Association for the Hospital Accreditation and Treatment Improvement. There were four main topics involved: the basic and advanced professional skills, humanities and intensive care skills. Each topic was further divided into several items so that they could be evaluated on the competency of the professional skills.

Results: There were 9 participants. Their average clinical experience was 8.11 years. 45% of these participants had less than two years in clinical teaching. Based on teaching experience they were divided into four groups: less than two years, 2-4 years, 4-6 years and 6-8 years. There were four teaching plans. The method of distribution via radial graph was used to analyze these four topics. The results indicated all four teaching plans were bias toward evaluating the basic professional skills. When using Kendall’s relevancy to analyze the score for the teaching plans among these teaching experience groups, the four topics, and skills, we found there no relevancy among teaching experience, the topics, and skill for writing up teaching plan (r=-0.10 p=0.962);(r=-0.365 p=0.074).

Conclusion: There is no correlation between teaching experience and the ability for writing up a balance teaching plans write-up there were certain imbalance: lack of human aspect and intensive care skills. There was only one group that had described humanity. Among the topic of intensive care skills, multiple skills appeared to be the favored core values of respiratory therapists. This will be feedback on how the improvements can be made when trying to write up a teaching plan. In sum, the exercise showed no interdisciplinary teaching plan and inadequacy in using TRM. We should teach the ability and formulate how to establish interdisciplinary collaboration.

NDP-31:
The Accuracy of Assessing SP’s Performance by Raters in a Nationwide High-Stakes OSCE
Sheng-Po Kao1,2, Chin-Hua Tseng1
1Department of Medical Education, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan; 2School of Medicine, Tzu Chi University, Hualien, Taiwan

Objective: High-stakes OSCE has been required as a prerequisite for participating in Step II National Medical Board Licensure Examination since 2013 in Taiwan. As to the 12-station nationwide high-stakes OSCE, there are 8 standardized patient (SP) based stations. Therefore, quality assurance of SPs’ performances, which was currently done by raters during the examination, will be the linchpin of an objective and fair OSCE. However, since the raters focus mainly on examinees’ performance, there is a concern that the raters may not assess the SP’s performance correctly. This study is to assure the accuracy of rating SP’s performance by OSCE raters.

Materials and Methods: In 2017 nationwide high-stakes OSCE, there were 48 SPs whose case training and performance assessment were assigned to 12 trainers. There were also 24 raters assessing both the examinees’ and SPs’ performance during the OSCE. A total of 47 SP-case combinations were comprised for comparison. All the SPs’ performances were evaluated using an 8-item rating scale with 5-point rating (1-5 points) for each item. We used paired t test for comparison of SPs’ performance scores assessed by SP trainers and raters.

Results: The mean total score (±SD) of SP performance assessed by OSCE raters was 36.57 (±4.48) compared to 35.19 (±5.63) assessed by SP trainers. Comparison of the
both scores showed statistically significant difference. And the raters tended to score higher than the SP trainers.

Conclusions: Since the mean score revealed significant difference, this result suggests that the performance score assessed by OSCE raters during the nationwide high-stakes OSCE may not accurately represent the SPs’ performances. However, further studies are needed by extending the population and scenarios for assuring this result. Also, we need to investigate further to see if there is any effect of the SP’s performance on the examinees’ score.

NPD-32:
A CORRELATIONAL STUDY OF SCHOOL SATISFAC-
TIONS AND SELF-RATED CLINICAL CORE COMPE-
TENCIES AMONG MEDICAL GRADUATES: AN EXAM-
PLE OF A COLLEGE WITH DIFFERENT PROGRAMS

Shu-Yuan Liang1, Mei-Ching Huang2, Tsung-Ying Chen1,2
1Department of Medical Education, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan; 2School of Medicine, Tzu Chi University, Hualien, Taiwan

Objective: In addition to written reports and field visits to medical schools, Questionnaire for Graduates of Medical Department is another reference assessment tool for the Taiwan Medical Accreditation Committee (TMAC). Its main purpose is to improve the quality of future medical education through investigation results. Therefore, the purpose of this study was to investigate the satisfaction of the medical graduates with overall medical education, learning experience, the overall quality of teachers, the school environment, and administrative system, and the training of major teaching hospitals. It also explored the relationship among students’ self-assessment of core abilities, their ability and satisfaction at graduation, and their academic performance. This will serve as a basis for future course improvement in the quality of medical education.

Materials and Methods: During the period from 2014 to 2017, a total of 210 questionnaires were sent, and 203 were collected. The rate of return was 97%. This study was conducted using the online questionnaire survey method. The questionnaire contained eight parts. Part 1 was students’ basic information; part 2 was the overall medical curriculum; part 3 was students’ learning experience; part 4 was the overall quality of teachers; and part 5 was the school environment and administrative system; part 6 was the specific learning information; part 2 was the overall medical curriculum; part 3 was the training of major teaching hospitals; part 7 was the main teaching hospital training; and part 8 was the self-evaluation core capabilities.

Results: The results of the questionnaire revealed that 58.1% of students were enrolled based on the exam enrollment; for the after graduation carrier plan, 39.9% of the graduates selected the Tzu Chi Medicine related institutes; 68% of the graduates selected medical centers for future medical training hospitals; only 11.8% of the graduates had received teacher’s advice to participating in the research plan; and 54.2% of the students had participated in volunteer service learning activities. In terms of various satisfactions, the satisfaction with overall medical education was the highest (4.4), overall clinical diagnosis and treatment 4.3, and overall school environment and administrative system was the lowest (3.9). In terms of satisfaction with the overall school environment and administrative system, satisfaction with the perfection of career counseling and planning activities was the lowest (3.8). In the course part, the satisfaction with “gross anatomy-related courses” that facilitates clinical medicine learning was the highest (4.7); “Microbiology and Immunology” that facilitates the use of clinical diagnosis was lower (4.5): and “Biochemistry” that helps clinical medicine learning was the lowest (4.1). In the self-assessment of core competence, the competence with good interpersonal relationships and communication skills was the best (4.1); and that with excellent medical professional and skills was the lowest (4.0). The ability that self-evaluated at graduation was sufficient to implement the core clinical skills was the highest (4.2); while that was sufficient to face and resolve clinical problems was the lowest (4.1). Various investigated items in satisfaction and self-assessment for the graduates of different school enrollments did not achieve significant differences. However, in terms of graduation performance, students who scored 83.9 (±3.3) enrolled in the selected enrollment method were the highest, and those who scored 76.8 (±5.0) were publicly funded students. Significant differences were found (p<0.00). The self-evaluation of competence at graduation for those had internship training in Hualien was 4.1 (±0.6), which was lower than that of non-Hualian internships, 4.4 (±0.5), p<0.05. In terms of satisfaction with major teaching hospitals, non-Hualian internship graduates had the satisfaction of 8.6 (±1.2), and Hualian internship graduates had 7.9 (±1.3) for the hospital, but they did not reach significant differences.

The self-assessment of core competence at graduation was positively correlated with the ability of graduates (r = 0.78), p < 0.05.

Conclusions: Graduates agreed with the school’s philosophy of running schools. However, the scores of self-assessment core competence or satisfaction of non-Hualian internships graduates are higher than Hualien internships graduates. This is a question that can be explored in the future. In the course arrangement, graduates agreed that “gross anatomy-related courses” can facilitate clinical medicine learning and are worth continuing to develop. The graduates’ satisfaction with the overall school environment and administrative system was the lowest. This part of the results can be used as a reference for school to improve the quality of administrative services. Because only a medical department was selected for the survey, the inference of the research results will be limited. We suggest that future studies should be conducted for different types of medical schools.

NPD-33:
HELP FACULTY TO CREATE A TEACHING PLAN THROUGH DESIGN THINKING: A ACTION RE-
SEARCH

Wei-Chun Cheng1,2, Sin-Yi Huang1, Hsu-Chen Yeh1, Chen-Pei Ho1, Tsung-Ying Chen1,2, Ching-Chiao Tseng1
1Department of Medical Education, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan; 2School of Medicine, Tzu Chi University, Hualien, Taiwan
**Objectives:** The introduction of simulation as a teaching tool in medical education had its origin in “role-playing.” After using “faked” patients for the training of medical students in Korea and Japan, Taiwan has gradually developed “standardized patients” program. The well-trained “faked patients” can provide learning opportunities for the medical students to learn clinical skills and for board examination with OSCE. Due to getting more complicated clinical conditions and critical scenario nowadays, Medical educators incorporated high-fidelity simulator to provide variable clinical training. Simulation training tolerated trainees to do physics and invasive procedures, furthermore, immediate physiologic response dynamically. Those provide the concrete learning experience for the students in the 21 Century. With the growing flourishingly in medical education, the faculty are facing new mission of how to create teaching plans incorporating new teaching method. The teaching plan includes designing, using compatible teaching tools and developing syllabi. Thus, the aim of this action research is to figure out the details about design thinking model to help faculty to create a teaching plan.

**Materials and Methods:** We merged six thinking steps of design thinking to establish a workshop, which is to develop a teaching plan. The participants were clinical professionals and also faculty, came from medical institutions in Eastern Taiwan. The participants were divided into few cooperating groups. The groups gone through the workshop and end-up with their own creative teaching plan. The tutors of each group had teaching consensus 2 weeks before the workshop. The tutors instruct the participants to formulate the prototype of teaching plans. The plans were following refined during the role practices. After the workshop, the participants submitted online survey based on 10-points Likert scale. We collecting survey data and analyzed with ANOVA and Fisher’s test (SPSS, 22 version).

**Results:** In this study, there was a total of 88 participants from 9 hospitals. The workshop had last for 4 hours. Based on their teaching requirements, the participants were joined four different types of teaching plan. With one tutor to guide a group of 4-6 participants, thus 16 tutors joined this workshop. There were 46 participants completed the online survey, although 86 participants once explored the survey (53.4% retrieved rate). The results showed as follow: the knowledge about creating a teaching plan: pre-workshop was 7.15 (±2.02), post-workshop was 7.93 in average (±1.28; p = 0.002). The required skills for designing the teaching plan: pre-workshop was 7.09 in average (±1.97), post-workshop was 8.11 in average (±1.07; p = 0.00). The attitude to develop a teaching plan in clinical teaching: pre-workshop was 7.80 in average (±1.87), post-workshop was 8.33 in average (±1.29); p = 0.005). As a whole the degree of satisfaction on the course designs was 8.43 in average (±1.10); among those with the faculty certification, their degree of satisfaction was 8.63 in average (±1.02) and the score was 7.50 in average (±1.06; p = 0.007, Fisher’s test: 7.94) for those without faculty certification. The degree of satisfaction with the teaching methods of workshop for the whole participants was 8.37 in average (±1.19); among those with faculty certification was 8.57 in average (±1.08), whereas those without was 7.37 in average (±1.30; p = 0.008, Fisher’s test: 7.64) There was no significant difference about curriculum design and satisfaction of teaching method among the participants regardless how many time faculty development they had, their motives and varied types of the teaching plan. Neither were differences in satisfaction among participants whether they had faculty certification or not.

**Conclusions:** The design thinking enhanced the knowledge, skills and the attitude at them toward creating the teaching plans. For those with the certification of faculty, their degree of satisfaction apparently is higher than those without. Because of variations in teaching abilities among the participants, dividing into groups randomly without considering each participant’s expectation will cause a discrepancy in improvements. Awareness of this problem previously, we trained tutors to take into consideration the differences in teaching ability of participants. Thus, they can strengthen curriculum design and instructive skills in this workshop with implementation of design thinking. Furthermore, the study results indicate no disagreements about the degree of satisfaction with the teaching ability of tutors when surveying the responses among the participants with variety in teaching experiences. It is essential to seeking participants’ ability first and providing differentiated strategies to help them to learn at individualized pace among tutors before the curriculum.

**NDP-34:**

**THE INFLUENCE OF ETHANOL IN ICH RATS**

Peter Bor-Chian Lin¹, Po-Kai Wang², Hung-Yu Cheng¹, Li-Chuan Huang³, Hsiao-Chi Yu¹, Hsiao-Fen Peng³, Hsin-Ru Liu⁴, Wei-Fen Hu¹, Hui-I Yang¹, Jon-Son Kuo¹, Hock-Kean Liew¹, Cheng-Yoong Pang¹, Tsung-Ying Chen¹²

¹Department of Medical Research, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan; ²Department of Anesthesiology, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan; ³Department of Physical Medicine and Rehabilitation, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan; ⁴Department of Radiology, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan; ⁵Neuroscience Center, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan

**Objective:** Intracerebral hemorrhage (ICH) occurs when focal bleeding within the brain parenchyma and accounts for approximately 10-15% of all strokes. ICH causes high mortality and morbidity rates which remains a serious clinical problem lacking effective treatment. ER stress modulation has been demonstrated as an important mechanism of ICH-induced injury in either beneficial or detrimental consequence. A non-linear J-shaped association between alcohol consumption and risk of incident total stroke has been reported, alcohol intoxication increases the incidence of the stroke while the moderate consumption of alcohol will decrease the frequency and improve the outcome of all stroke. We previously described that alcohol intoxication aggravates ICH-induced injury via the elevation of hematoma expansion, brain edema, blood-brain barrier disruption, microglial activation, oxidative stress, and neuroinflammation. However, the underlying mechanisms of moderate alcohol consumption protect against ICH-induced injury remains unclear.
Materials and Methods: After 1 hour of alcohol consumption (0.1875, 0.375, 0.75 or 3 g/kg, i.p.), ICH was induced in male Sprague-Dawley rats by intra-striatal infusion of bacterial collagenase VII-S. Physiological parameters were evaluated by body weight changes and modified neurological severity score (mNSS). Hemorrhagic volume was assessed by the morphometric assay. Markers of ER stress modulation were examined by enzyme-linked immunosorbent assay (ELISA) of total ubiquitin content, quantitative real-time PCR of targeted mRNA, and Western blotting of specific antibodies. Also, pro-inflammatory cytokines (TNF-α, IL-1β, IL-6, and IL-10) expression was evaluated by ELISA tests.

Results: Administration of high dose of ethanol (3 g/kg, i.p.) as we previously described, aggravated ICH-induced neurological deficits. However, moderate ethanol consumption (0.75 g/kg, i.p.) reduced neurological deficits and body weight loss from 1 to 3 days post-ICH. Moderate alcohol consumption also reduced ICH-induced oxidative stress and ER stress. The beneficial mechanisms of moderate ethanol consumption on the ICH-induced injury, including eliminating of chaperone proteins depletion ubiquitinylation level and protein aggregation. Moderate-dose of ethanol consumption also suppressed TNF-α, IL-1β, and IL-6, meanwhile induced IL-10 production at 3 days post-ICH.

Conclusion: In our preliminary results, we discovered that proteostasis disruption and ER stress occurs in the early phase of ICH-induced injury, while few of the chaperone proteins, such as Bip/GRP78, Hsc70, and GRP94, which maintain the ER functions were depleted. Pretreatment of moderate ethanol reduces ICH-induced injury and neurological deficits, via the improvement of ER function by inducing chaperone proteins expression, suppressing oxidative stress detrimental consequence of ER stress and cytokines level. These results may explain the J-shaped association of low-dose alcohol consumption and its beneficial outcome to ICH stroke.

NDP-35:
A RETROSPECTIVE ANALYSIS OF THE EFFICACY OF PEMBROLIZUMAB IN PATIENTS WITH ADVANCED LUNG CANCER

Tzu-Rong Peng
Department of Pharmacy, Taipei Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, New Taipei, Taiwan

Objective: The purpose of this study was to present the efficacy and adverse effects of pembrolizumab for treatment of advanced non-small cell lung cancer (NSCLC) in real world.

Materials and Methods: Patients with advanced NSCLC (stage III or stage IV) who were administered pembrolizumab at Taipei Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation in Taiwan from July 2016 to March 2018 were enrolled. The median OS was 6.63 months (95% CI 1.83-11.4). 6 months and one-year OS rate of 48% and 31%, respectively. Any grade adverse events occurred in 11 patients (28.2%), only 2 patients (5.1%) occurred in pembrolizumab monotherapy, such as abdominal pain, appetite decreased, fatigue, weight loss, and rash.

Conclusions: This study was shown the experience of real-world treatment with pembrolizumab in advanced NSCLC.

NDP-36:
EVALUATION OF APIXABAN UTILIZATION RATIONALITY ON OUTPATIENTS

Ya-Ling Ko1, Hui-Hsia Hsieh1, Tien-Yuan Wu1,2, Chi-Hua Chen1
1Department of Pharmacy, Taichung Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Taichung, Taiwan; 2Department of Pharmacology, School of Medicine, Tzu Chi University, Hualien, Taiwan

Objective: Apixaban belongs to new oral anticoagulants (NOACs). It is not only the treatment of deep vein thrombosis, but also can reduce the risk of stroke and systemic embolism in patients with nonvalvular atrial fibrillation. In this retrospective study, we evaluated the reasonable using ratio of apixaban on outpatients This drug utilizing evaluation (DUE) study will help to elevate the drug safety for patient, especially in high risk group.

Materials and Methods: This study is a retrospective study in a regional hospital. Cases were collected from February 2017 to May 2017 for all outpatients using apixaban. The reasonableness assessment of apixaban prescribing included indications and dose adjustment for renal dysfunction. The recommendation doses for renal dysfunction followed by the guidelines of American Heart Association (AHA) and Heart Rhythm Society (HRS). Patient’s serum creatinine was monitoring for adjusting the therapeutic dose accordingly. Descriptive statistical analysis was performed in the study.

Results: Total 49 cases were recruited in the study. The indications of all were nonvalvular atrial fibrillation. In addition, 46 cases (93.88%) were monitored serum creatinine, 45 cases (91.84%) had performed dose adjustments in accordance with appropriate therapeutic doses by renal function. One patient was given normal dose initially, and then decreased dose according to renal dysfunction and age. However, we followed up the patient recently, the dose has been adjusted to normal dose according to the condition of the patient.

Conclusions: This study showed that the reasonableness of the use of apixaban was counted as 49 cases (100%). Recently, we also use the build-in computerized physician order entry system to remind the physicians about monitoring the renal function every 6 months to improve the efficacy and safety of apixaban. The results will also provide physicians to review.

NDP-37:
The Medication Safety of Vinorelbine in Cancer Chemotherapy

Tien-Yuan Wu1,2, Hui-Hsia Hsieh2, Chi-Hua Chen1
1Department of Pharmacology, School of Medicine, Tzu Chi University; Hualien, Taiwan; 2Department of Pharmacy, Taichung Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Taichung, Taiwan

Objective: Vinorelbine (Navelbine®) is a cancer chemotherapy medication used for non-small cell lung cancer, breast
cancer, ovarian cancer, or Hodgkin’s disease. The side effects of vinorelbine are nausea, vomiting, bleeding, constipation, peripheral neuropathy, and tiredness and weakness. The higher initial dose and regimen of vinorelbine cause the higher risk of side effects and higher mortality rate. Therefore, we reviewed the medical records of vinorelbine to evaluate the utilization appropriateness in the hospital.

Materials and Methods: This is a retrospective study. Patients taking vinorelbine orally from January 2009 to May 2017 enrolled into this study. This study followed the Guideline on medication use evaluation (MUE) by American Society of Health System Pharmacists (ASHP). The initial dose in the first three weeks higher than 60 mg/m2/week considered as inappropriate dose regimen.

Results: In this retrospective study, 301 patients recruited and evaluated their oral vinorelbine regimen. There were five patients diagnosed as breast cancer taking the higher initial dose. The initial regimen was 25% to 33 % higher than recommended dose. Although there were only five patients taking higher dose than recommended initial dose, a patient taking 33% higher than recommended dose suffered from a critical physical condition and enrolled into ICU. Therefore, the initial regimen was controlled by the health information system to prevent the sever physical crisis.

Conclusions: The severity of overdose of cancer chemotherapy causes higher mortality rate. Monitoring the chemotherapy regimen and blood cells as well as physical condition are important extremely. Oral vinorelbine is more convenient for patients receiving chemotherapy. Therefore, a clinical pharmacist may need to pay more attention into dose regimen assessment and patient education.

NDP-38: RISK OF MAJOR BLEEDING USING DABIGATRAN AND CONCURRENT MEDICATIONS IN NON-VALVULAR ATRIAL FIBRILLATION PATIENTS

Yi-Ting Shen1, Hui-Hsia Hsieh1, Chi-Hao Hung1, Tien-Yuan Wu1,2
1Department of Pharmacy, Taichung Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Taichung, Taiwan; 2Department of Pharmacology, School of Medicine, Tzu Chi University, Hualien, Taiwan

Objective: Dabigatran etexilate (Pradaxa®) is an oral anticoagulant (direct inhibitor of factor IIa, thrombin) approved by the FDA in 2010. Dabigatran are prescribed in combination of other medications which share the same metabolism enzymes may increase major bleeding risks. In this study, we assessed the association between dabigatran combined with or without concurrent medications and risk of major bleeding in patients with non-valvular atrial fibrillation.

Materials and Methods: This is a retrospective cohort study collecting data between Nov 1, 2016 and Oct 31, 2017 in a regional hospital, central Taiwan. In 473 non-valvular atrial fibrillation patients who received dabigatran with or without concurrent use of amiodarone, fluconazole, itraconazole, voriconazole were recruited. Major bleeding included intracranial hemorrhage or gastrointestinal, urogenital, or other bleeding.

Results: The average age of these 473 non-valvular atrial fibrillation patients received dabigatran was 74.2 ± 9.0. The concurrent medications prescribed with dabigatran were amiodarone (77/473, 16.3%), fluconazole (8/473, 1.7%), itraconazole (0/473) and voriconazole (0/473). The incidence rate of bleeding in use of dabigatran alone is 2.56% (10/390). The risk of major bleeding of dabigatran in combination of amiodarone is 1.30% (1/77) and fluconazole is 12.5% (1/8). A patient took dabigatran and amiodarone together led to intracranial hemorrhage. A patient administered dabigatran with fluconazole occurred PT time prolonger over 100 seconds.

Conclusions: Among patients taking dabigatran for non-valvular atrial fibrillation, concurrent use of amiodarone compared with the use of NOACs alone, was associated with increasing risk of major bleeding. Thus, concomitant administration of dabigatran etexilate (a P-gp substrate) along with amiodarone (a P-gp inhibitor) will increase bioavailability of dabigatran etexilate and higher the plasma concentration of dabigatran. Physicians prescribing NOAC medications should consider the potential risks associated with concomitant use of other drugs. In order to protect patient safety, the management of NOACs may need to apply to health information systems.

NDP-39: HEALTH INFORMATION SYSTEM MANAGEMENT AND EVALUATION OF DABIGATRAN SAFETY

Chi-Hao Hung1, Hui-Hsia Hsieh1, Tien-Yuan Wu1,2, Chi-Hua Chen1
1Department of Pharmacy, Taichung Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Taichung, Taiwan; 2Department of Pharmacology, School of Medicine, Tzu Chi University, Hualien, Taiwan

Objective: New oral anticoagulants (NOACs), which was developed to overcome the disadvantages of the old drug, Warfarin, are particularly effective in clotting factors, preventing embolic disease, reducing frequent monitoring of blood values, and lowering the risk of bleeding. However, NOCAs may not be used in the patients with renal function insufficiency. Therefore, the study was performed to evaluate the utilization appropriateness of dabigatran in a regional teaching hospital in Taiwan.

Materials and Methods: The patients who took dabigatran from January 1 to April 17, 2017 were recruited for this study. The rationality and appropriateness of dabigatran utilization was evaluated by diagnoses and creatinine clearance (CrCl).

Results: The number of the recruited patients was 319. Indications included prophylaxis of non-valvular atrial fibrillation with stroke and systemic embolism. Four patients (4/319, 1.3%) took dabigatran without renal function assessment and dose adjustment. Among the twenty-seven renal function insufficient patients (CrCl <30 mL/min), only two took adjusted dose and nineteen were given normal dose. Six patients with renal insufficient withdrew dabigatran and transferred to other drugs.

Conclusions: In order to protect patient safety, the management of NOACs may need to be applied to health information systems. First, patients must receive renal function assessment within 6 months otherwise the system would block the prescription. Second, patients with renal insufficient (CrCl <30 mL/min) will not receive dabigatran to ensure their pharmacotherapy safety and reduce the risk of bleeding.
NDP-40:
EVALUATION OF THE PHARMACIST CONDUCTED
HEALTH EDUCATION SERVICE FOR OUTPATIENTS
ON NEW ORAL ANTICOAGULANTS
Chi-Hua Chen¹, Hui-Hsia Hsieh¹, Tien-Yuan Wu¹,²
¹Department of Pharmacy, Taichung Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Taichung, Taiwan; ²Department of Pharmacology, School of Medicine, Tzu Chi University, Hualien, Taiwan

Objective: The clinical impact of pharmacist managed oral anticoagulation clinic has been well documented in the United States, but much less has been reported in Asia. Patients need more intensive education when they are undergoing new oral anticoagulants (NOACs) therapy with traditional Chinese herbal medicine (TCM). Therefore, the purpose of this study is to assess and improve patients’ understanding of NOACs and increase safety of use by providing patient education on NOACs therapy.

Materials and Methods: This study recruited patients who were prescribed NOACs between June 2017 and October 2017 with written informed consent in the Taichung Tzu Chi Hospital. A 100-point questionnaire was used to evaluate the medication knowledge before and after completion of the program. The patient satisfaction questionnaires were distributed to investigate patients’ perception of the medication instruction they received. Data were analyzed using SPSS® 18.0. McNemar’s test was also applied to compare pre- and post-intervention differences.

Results: This study recruited 40 patients (18 male, 22 female), whose average age was 73.6 ± 14.4. The indications were atrial fibrillation (AF, 73%) and deep vein thrombosis (DVT, 27%). Analysis on drug safety awareness showed that patients’ understanding enhanced significantly after patient education (pre-intervention scores 51.5 ± 28.9 vs. post-intervention scores 99 ± 4.36, p < 0.01). The overall patient satisfaction score is 95.3 ± 6.9 out of 100 points.

Conclusions: Pharmacists’ knowledge of clinical pharmacology, pharmacokinetics and pharmacodynamics can work with patients in maintaining safe and effective use of NOACs. These results revealed that the clinical pharmacists improved the patients’ therapeutic outcomes of NOACs and demonstrated the benefits of anticoagulation clinic performed by clinical pharmacists in Taiwan.

NDP-41:
EVALUATE EFFECTIVENESS OF SMOKING CESSA-
TION INTERVENTION PROGRAM FOR SMOKERS
LIVING WITH PREGNANT WOMEN
Cheng-Yu Chen¹, Hsin Lu¹, Mung-Jung Lee²
¹Department of Family, Taipei Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan; ²Department of Nursing, Taipei Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan

Objective: Smoking is medically accepted as a chronic and addictive disease. Research shows that women who exposed to second-hand smoke have many unfavorable effects on the fetus. However, there are few studies related to smoking cessation program on smokers living with pregnant women in Taiwan. In this study, we tried to evaluate the effectiveness of the program to this group of people.

Materials and Methods: The study population was smokers living with pregnant women. 12 smokers were recruited in the medical center. All smokers were adopted a one-to-one health education with the manual to quit smoking cessation education content description and to understand behavior changes in smoking cessation before and after consultation. We used research tools for the structured questionnaire. Due to the small number of cases, we used Non-parametric analysis of the relevant variables.

Results: The results showed that there was statistically significant change in knowledge of smoking cessation and changes of smoking cessation behavior among the interventions. In 12 cases, the smoking cessation rate was 15% in three months and 63% in six months. The one-year smoking cessation rate is 50%. The results of this study represent interventional health education programs and long-term follow-up will enhance continuous cessation behavior.

Conclusions: In the future, it is suggested that health education on prevention and control of second-hand smoke be introduced into early pregnancy, and include prenatal education and other promotion courses to increase pregnant women’s awareness of harm about second-hand smoke and to refuse smoke, further more to advice smokers lived with pregnant women to quit.

NDP-42:
DIFFERENCES BETWEEN SEPARATE CARE FOR
NEW MOTHER AND INFANT VERSUS ROOMING-IN
AT NIGHT QUALITY OF SLEEP
Mung-Jung Lee¹, Hsiao-Mei Chen²
¹Department of Nursing, Taipei Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan; ²Department of Obstetrics and Gynecology, Taipei Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan

Objective: The practice of rooming-in has been shown to help new mothers and their newborn infants adjust physically and mentally and to increase breastfeeding success. This objective has fallen significantly short of expectations in terms of both the number and the success of hospital implementations. In general, hospitals are concerned that rooming-in may decrease sleep quality in birth mothers.

Materials and Methods: Using a prospective correlational study design, 120 postpartum women were recruited from a Medical Center hospital. The quality of sleep was measured by both the Cadipulmonary Coupling (CPC) and the Pittsburgh Sleep Quality Index (PSQI). Other instruments consisted and selected demographic, obstetrical, and health related questions. The CPC, PSQI, were measured everyday during postpartum hospital stay.

Results: The study found that the choice of rooming-in is positively related to maternal attitudes toward to rooming-in, and previous experience of rooming-in. Mothers who had rooming-in had higher sleep scores compared to those who did not room-in due to frequent sleep interruptions from breastfeeding (p < 0.05).

Conclusions: Maternal attitude and prior experience of rooming-in are major factors for mothers who chose to room-in. Clinically, patient education and psychological preparation in
To determine the factors affecting
work stress (personal response, incomplete of personal arrangement). The working environment (autonomy, control over the practice setting, nurse-physician relationship, organizational support) showed a positive correlation with the self-concept of care (four sub-items), work stress (competence) was negatively correlated. The working environment (autonomy) and nursing self-concept (care) have a tendency of 46.0% to predict the job burnout (emotional exhaustion) of the caregiver by gradually returning to the statistical model of the work stress (personal response, incomplete of personal arrangement).

Conclusions: Work units will affect the degree of job burnout. Improving nurses’ education level, help to enhance the advanced level, but also increase the sense of job satisfaction, work ability can also be improved; organizational support to promote the optimization of the working environment is also a necessary factor to reduce staff burnout.

NPD-44:
EFFECTS OF INTRINSIC AND EXTRINSIC FACTORS ON SLEEP DISORDERS AMONG WARD NURSES IN NORTHERN TAIWAN

Ru-Wen Liao1, Chen-Han Wu2, Pei-Shan Hung1, Yi-Chyan Chen1
1Department of Nursing, Taipei Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, New Taipei, Taiwan; 2Department of Psychiatry, Taipei Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, New Taipei, Taiwan

Objective: Sleep problems are associated with intrinsic factors (personal attributes, physical and psychological problems) and extrinsic factors (interpersonal relationships and behavioral styles) in the general population. Here, such influential factors and their differing effects on hospital ward nurses (WNs) were investigated.

Materials and Methods: To determine the factors affecting and predicting the prevalence of sleep disorders among WNs, a cross-sectional, correlational study was conducted. A convenience sample of 395 WNs was recruited from a medical center during the period 1 August 2015 to 31 January 2016 in northern Taiwan. Data were analyzed using descriptive statistics, independent t test, one-way ANOVA, and logistic regression analysis.

Results: We found that 68.6% (271/395) of WNs obtained PSQI scores higher than 5, and the mean PSQI score for the WNs was 7.54 ± 3.68. Cardiovascular problems and the prevalence of anxiety differed significantly between WNs with and those without sleep disorders (p < 0.05). A significant difference was observed between WNs with and those without sleep disorders in their relationships with friends and workplace administrators (p < 0.05) and in their behavioral styles related to coffee consumption, Internet use, and sleep-helped medication intake (p < 0.05).

Conclusions: The positive effects of affecting factors on sleep disorders among WNs could be modulated by interpersonal relationships with friends and workplace administrators.

NPD-45:
EXPERIENCE OF SKIN WOUND CARE IN PSORIASIS PATIENTS

Yi-Chia Ni, Chu-Ya Wen, Shu-Chuan Chen
Department of Nursing, Taipei Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, New Taipei, Taiwan

Objective: Psoriasis is a complex, chronic, multifactorial, inflammatory disease that involves hyperproliferation of the keratinocytes in the epidermis, with an increase in epidermal cell turnover rate. There are five types of psoriasis: plaque psoriasis, guttate psoriasis, inverse psoriasis, pustular psoriasis, and erythrodermic psoriasis. Generalized pustular psoriasis (GPP) is a rare and severe type of psoriasis. It is usually accompanied by systemic symptoms such as high fever, burnout, and wound infection. In severe cases, it can cause sepsis and is life-threatening and in some cases has driven patients to intensive care units. GPP skin damage occurs throughout the body. The most serious area is over 90% of the body surface area. A large area of skin damage causes the VAS to be 8 - 10 points. In addition, the lack of clinical knowledge and experience in the management of GPP patients, and facing large-area skin wound shedding and discharge, are major challenges for clinical nurses. The instructions for skin self-care are even more important for GPP patients after discharge.

Materials and Methods: We conducted reviews of the literature and wound-empirical care and established guidelines for...
clinical management of GPP in October 2017. According to our guidelines we took care of three GPP patient. By using boiled warm water mixed with the iodine syrup to replace the traditional skin cleansing method. After the cleansing, then the wound dressing was performed. The method reduced the dressing frequency and pain during change dressing.

Results: After October 2017 by using this care guideline to look after 3 GPP patients. Most patient’s skin dander and keratin were largely removed. The patient’s pain index was decreased to 4-6 points when dressing. We recorded the state of the patients by image photographs, and the condition of skin damage got significantly improved. For skin self-care, patient’s feedback on this care instruction is simplified and easy to use. The change in body appearance has improved their self-confidence and social quality. The quality of life after returning home have also greatly improved.

Conclusions: In face of large areas of skin damage and dander cleaning, we use a more simplified cleaning method and wound dressing applications to reduce the frequency of change dressing. It also reduce the nursing staff’s burden and reduce the pain caused by change dressing. In addition to establishing guidelines on clinical care for GPP, we hope to promote this care guide to related medical or nursing societies to benefit more patients and reduce the workload of clinical nurses.

NDP-46:
THE EXPERIENCE OF ORAL MUCOSAL CARE IN PERIPHERAL BLOOD HEMATOPOIETIC STEM CELL TRANSPLANT PATIENTS

Chieh-Chu Cheng, Mei-Hui Chen, Yi-Chia Ni, Chin-Chi Chang, Chia-Chen Yeh, Peng Chao
Department of Nursing, Taipei Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, New Taipei, Taiwan

Objective: Peripheral blood hematopoietic stem cell transplantation (PBHSCT) has been used for many years in the treatment of hematological diseases. Oral mucositis is a common side effect during the period of chemotherapy and radiation therapy. The incidence and severity of oral mucositis is different in variety of cancer treatments, i.e., the simple chemotherapy regimens it is between 30 and 75%, and high-dose chemotherapy in condition regimens for PBHSCT is as high as 75-99%. In the rare, the incidence in our hospital is 100% (N = 19 patients, Gr II: 10.52%, Gr III: 78.94%, and Gr IV: 10.52%). Patients often had pain and difficulty in eating caused by oral mucosal damage, then prevent them from sufficient nutrition by oral intake. How to improve the patient’s physical discomfort during oral mucositis period is a great challenge for nursing care, and continuous oral mucosal care instruction is even vital.

Materials and Methods: According to the “Guidelines for the Care of Oral Mucosa in Cancer Patients” provided by the Taiwan Society of Cancer Nursing, we explore the role of clinical interventions with Sucralfate + Lidocaine (S+L) in improving oral mucositis retrospectively by reviewing the medical records. It including the nursing records as: (1) oral assessment tools and overall assessment, (2) confirmation of problems, (3) Oral mucosa disposal and care, (4) Continuous care, which include oral mucosal continuity assessment, comorbidty treatment, and care (infection, bleeding, dry mouth) for statistical analysis. A total of 19 patients who received PBHSCT between October 2015 and January 2018 were reviewed and analyzed the above data. The main evaluation aspects are the grade of oral mucosal damage during transplantation, the pain visual analog scoring (VAS), eating and weight changes, and the length of stay in hospital. From the review of nursing records, it was found that patients suffer from difficulties in eating and pain after oral mucosal damage most frequently, which in turn reduces oral intake and nutrition support. Hence, started from June 2016, we introduced the use of (S+L) in patients with PBHSCT to improve the care of patient’s oral pain prior the oral feeding.

Results: From 2016, 11 cases had received (S+L) before oral intake to relieve the pain caused by mucositis. After eating, they had oral hygiene and care. Our data found that patients who received this nursing measure had pain VAS from 8-10/10 decreased to 2-3/10. These patients had no oral candidiasis during transplantation, the weight was maintained within the ideal range, and the average stay in transplant ward was 7 days less.

Conclusions: The consequence of mucosal damage/mucositis leading to oral pain, affecting the patient’s appetite and reducing intake of food and nutrition is a common care problem in PBHSCT patients. Nursing staff can provide complete assessment and care instructions for the oral mucosa before, during and after transplantation in these patients. It is very important for the patient to take care and maintain oral hygiene during the illness. Our experience showed (S+L) can make patient comfort and soothes oral pain, increases patient’s willingness to eat and better oral intake, reduces complications and infections of oral mucositis. It also shortens hospital stays, improves quality of life and care, and reduces medical expenses. However, because of the small number of cases and the interventions we use, the benefit of routine application of the (S+L) in PBHSCT patient care need more prospective evaluation. The establishment of guidelines for the study and care of mucositis in patients with PBHSCT is the direction in which we can work.

NDP-47:
QUALITY-OF-LIFE PREDICTORS IN OLDER ADULTS WITH HEART FAILURE

Hsiang-Fen Yeh1, Jung-Hua Shao2, Yi-Chun Kao1
1Department of Nursing, Tzu Chi University of Science and Technology, Hualien, Taiwan; 2Department of Nursing, Chang Gung University, Taoyuan, Taiwan

Objective: To explore correlations between quality of life in older adults with heart failure and their demographic and clinical characteristics as well as depression levels and to determine predictors of quality of life from these variables. Heart failure negatively affects older adults physically, psychologically, and socially. However, few studies have explored predictors of quality of life in older adults with heart failure in Taiwan from multiple dimensions

Materials and Methods: This was a cross-sectional study. From January 2013 to June 2014, convenience sampling was...
applied to collect data from 175 older adults with heart failure at two hospitals in Northern Taiwan. Participant data were collected from medical records and researcher-administered structured questionnaires in face-to-face interviews. **Results:** Quality of life was higher in elderly participants with heart failure if they were employed, exercised, were in New York Heart Association Class I or II and were not hospitalised than in those who had retired or were unemployed, did not exercise, were in New York Heart Association Class III or IV, and were readmitted to hospital for >10 days, respectively. Moreover, participants’ quality of life decreased as heart failure-related symptom distress and depression levels increased. Quality of life was associated with body mass index, readmission length of stay, New York Heart Association functional classification, symptom distress, and depression levels. **Conclusions:** Discharge planning for patients with heart failure should include education on self-managing symptoms. This education should be continued during home and follow-up care, with assessments of depressive status and appropriate referral to psychological counselling. These interventions may improve medication adherence and decrease costly hospital readmissions.

**NDP-48:** RELATIONSHIP BETWEEN INTERPERSONAL STYLE AND NURSING CARE ADAPTABILITY

Chu-Feng Wu1, Kai-Yen Chang1, Chia-Che Tsui1, Pi-Hui Huang2, I-Shiang Tzeng3

1Department of Nursing, Taipei Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, New Taipei, Taiwan; 2Department of Information, Taipei Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, New Taipei, Taiwan; 3Department of Research, Taipei Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, New Taipei, Taiwan

**Objective:** The stability of nursing work is one of the major indicators of hospital care quality. Head nurses may take responsibility for career stuffs of the Nurse Post graduate Year (NPGY). For example, head nurses need to aid the NPGY to adapt their service workplace, to raise work efficiency and to reduce the turnover intention. Personality traits are associated to NPGY’s adaptation for the service environment. According to some research surveys, the major reason for nurses to turnover is stress and depression. This study is aim to explore the association between personality traits are associated to NPGY’s adaptation. Furthermore, due to NPGY is supported by a clinical teacher and a tutor; we also explored the relevance of the teacher’s personality traits and NPGY’s stress.

**Materials and Methods:** The Professional Dynamic Program (PDP) was administered to 228 NPGY and their clinical teachers. Next, the Brief Symptom Rating Scale (BSRS) was administered to NPGY four times on the first day, 30 days, 60 days, and 90 days, respectively. We use descriptive statistics, Chi-square, Student’s-test, and ANOVA for analysis to compare the differences between several personality traits and their BSRS scores. We also investigate the correlation between clinical teacher personality traits and NPGY BSRS scores.

**Results:** We found that there are significant differences in BSRS average scores on first day among “Analytical” vs. “Expressive”, “Expressive” vs. “Amiable”, and “Expressive” vs. mixed type. “Analytical” vs. “Expressive” and “Expressive” vs. mixed type had significant difference in BSRS average scores on 60 day. NPGY had significant differences in BSRS average scores between 30 days and 60 days. Teacher’s personality traits and NPGY’s BSRS average score show no significant difference.

**Conclusions:** In this study, BSRS average score of “Expressive” type is lower than “Analytical” type for NPGY. It means that NPGY who have “Expressive” type may not feel depressed at work. However, BSRS average score of NPGY is significantly higher than the 30 days at the 60 days. It means that depression increased on 60 days compared to 30 days ago for NPGY at work.

**NDP-49:** IMPROVE THE INSTRUCTION IN THE NURSING WITH FALLS PREVENTION OF PEDIATRIC WARD

Yi-Rong Li, Chen-Ni Li, Ya-Chun Chen

Department of Nursing, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan

**Objectives:** By comparison with the annual incidence of falls events in our hospital, the incidence of falls events in general pediatric wards was higher (0.16% versus 0.24%). This project aims to improve the completion rate of falls prevention strategy delivery by pediatric nursing staffs. We noted only 40.6% of inpatient family had received the health education by nursing staffs to empower their knowledge in falls prevention strategy. After on-site observation and personnel interviews, we found some possible reasons including high multiple admissions, poor family insight of falls prevention, complicated health education materials, verbal information alone, the lack of standard operating procedure and staff training to deliver the health education information.

**Materials and Methods:** After discussion and literature reviews, our groups formulate the following strategies: 1. Production of simple learning tool 2. Laddering program of health education and simplifying the education materials. 3. Creating the standard operating procedure of health education for nursing staffs. 4. Creating the QR cord for health education materials. 5. Formal staffs training program of health education delivery.

**Results:** We improved the completion rate of health education in falls prevention strategy delivered by pediatric nursing staffs from 40.6% to 84.6%. After the implementation of the project, the incidence of falls in our unit dropped drastically from 0.24% before the improvement to 0.05%.

**Conclusion:** This project found that the application of nurses are provided with a complete and consistent guideline on fall prevention care so that caregivers can obtain better nursing guidance and take part in the prevention of falls.

**NDP-50:** USING SDM TO IMPROVE THE RATE TO ACCEPT TRACHEOTOMY FOR THOSE INTENSIVE CARE UNIT PATIENTS WHO ARE PROLONGED MECHANICAL VENTILATION-DEPENDENT

Yu-Ping Ho1, Pei-Chi Hsieh2, Huan-Ting Shen3, Shu-Ting Chuang1, Sou-Hsin Chien1
Objective: Detrusor underactivity (DU) can be observed in many neurogenic condition and myogenic failure. The pathomechanism of DU is indefinite, but impaired bladder sensory pathway affecting the activation of detrusor contraction is considered a possible cause. In addition, urothelial dysfunction and dysregulated protein expression in bladder mucosa are proved in many lower urinary tract diseases. This study investigated the potential urothelial dysfunction and proteins expressed in bladder mucosa in DU patients.

Materials and Methods: ICU team members make use of cross-occupation cooperative education models and SDM method to increase the positive knowledge of family of those ICU patients so that the rate of tracheotomy can be increasing.

Results: This research started from 2017 July 15th to 2017 December 20th. There are totally eight ICU patients agree to participate the research. At the end of completion of medical education, there are 6 patients decide to take tracheotomy and three of them successfully withdrawing the PMV during their stay in ICU.

Conclusions: Due to the standardization process development tool, it enable the nursing team can make its medical education process more standardized for patient to understand the pros and cons to choose either tracheotomy or PMV so that they can make better treatment choice for patients. Therefore, we have to add this standardization process into the regular ICU nursing care routine.

NDP-52:
PROCESS IMPROVEMENT IN SURGICAL INSTRUMENT CLEANING

Li-Hua Lin
Department of Nursing, Taipei Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, New Taipei, Taiwan

Objective: As the increasing complexity of surgical instruments has complicated instruments cleaning processes, the health care facilities in the world face the challenge of reprocessing instruments. If the cleaning processes have not done properly, organic debris, previous residual tissue that remains in or on a surgical instrument, poses significant risk to patient safety. The ECRI institute considered inadequate reprocessing of instrument to be the second of the top health technology hazards in 2017. According to Taipei Tzu Chi Patient Safety Reporting System related to inadequate cleaning in 2015, not only prolonged surgical time, but also induced the risk of SSI.

Materials and Methods: We collected data from 2016.06-2017.04 inadequate cleaning events that revealed the occurrence rate was 0.03%, as this same time, we also analyzed those instruments, suction tips, orthopedic devices, injection needles had a higher incidence. We conducted a serial investigations for 23 staffs in order to identify the reasons, including interviews, observation of operation in cleaning process, questionnaire from survey cake cloud platform, as well monitoring the efficacy of cleaning process. The initial surveys revealed the completion rate of instrument cleaning processes was 69%, the employees awareness score was 81 points, and invalid cleaning process of mechanical washer. After analysis of plato, fishbone diagram, and then used 80/20 rules to determine this to be a result of not familiar with the instruments, lack of relevant cleaning equipments, not configured with appropriate manpower, lack validation of cleaning process, insufficient education training for instrument. We adopted Decision Matrix Analysis as a method of evaluation and propose the following measures: (1) twice a week for instrument training, we also established E-learning program to offer staff who cannot participate
Four main strategies of fall prevention: (1) training caregivers to implement an active fall prevention plan; (2) purchasing relevant cleaning equipment, as well as various sizes of brushes to replace old general sinks for specialized equipment cleaning; (3) increasing cleaning staff; (4) developing the cleaning validation of surgical instruments, using ATP washer indicators to ensure the efficacy of manual wash or mechanical washer.

**Results:** The average occurrence rate of unclean surgical instruments decreased from 0.03% per month to 0.01% during May 2017–March 2018, with the completion rate of instrument cleaning processes elevated to 92%, and the validation of cleaning quality was also improved after maintenance of mechanical washer.

**Conclusions:** The advent and continued growth of minimally invasive surgical procedures have contributed to the proliferation of complex instruments, which often include narrow lumens or channels that are not easy to clean. Processing instruments in accordance with the manufacturer’s instructions and cleaning guidelines can help reduce or eliminate microorganisms from instruments to cause patient infection.

**NDP-53:**
INVESTIGATE THE EFFECT OF TEAM RESOURCE MANAGEMENT ON THE BODY AND MIND OF BURN PATIENTS

Chiu-Ru Hung, Fang-Yu Kang, Pei-Yu Tseng
Department of Nursing, Taipei Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, New Taipei, Taiwan

**Objective:** In addition to students suffering from psychological, social, culture, family, work and other issues, serious burn and scald even face the follow-up care of wounds, scars, hyperplasia, limb contracture and deformation, rehabilitation and other follow-up care issues, affecting their quality of life experience of healthy living. This article describes a case of an accidental trip with friends leading to 65% of severe body burns. When I took care of my clinical practice and found dressing and rehabilitation activities, I often closed my eyes and lips, frowning and faintly groaning, my body tight. However, they did not take the initiative to express their pain. They clearly felt the anxiety and fear of the case. As a result, they were motivated by the author to provide personalized swallowing and rehabilitation programs, pain control and psychological counseling through cross-team care through continuous care. I hope this care nursing experience sharing, thereby enhancing the quality of care in the future.

**Materials and Methods:** This article draws on individual nursing plans to improve the use of endotracheal tubes for a long time leading to hoarseness, easy to cough drinking water situation, with team care, such as: functional therapist swallowing training at least twice a day bedside rehabilitation exercise, Teach the use of auxiliary equipment and with limb rehabilitation training activities to enhance muscle tone; Dressing process by the anesthesiologist to adjust the analgesic dose, physiological saline wet dressings removed, to reduce the pain caused by dressing change; Psychologists involved in psychological support and timely music therapy, reduce anxiety, hope this article can be achieved in the field of expertise to share experience and reference.

**Results:** Due to prolonged use of endotracheal tubes leading to hoarseness, easy to drink water, cough, etc., and rehabilitation division to develop swallowing training, the use of special tablespoons adopt gradual intake, so that patients can swallow smoothly no further cough occurs; dressing first Give physiological saline to wet cover the gauze on the wound, wait 10-15 seconds before removing, so that the case during dressing change to reduce the occurrence of pain; living in intensive care unit during the patient appeared fear of baking lamps, dressing change Afraid, by listening to family members to record encouragement words and brother’s own songs, the case can be brave enough to say that anxiety has been alleviated.

**Conclusions:** The author takes care of cases to deal with the acute treatment of patients with burn and burn because of the slight sepsis in each case, ignoring the importance of early rehabilitation and the lack of experience in case psychology. This is another limitation of this article. Apart from formulating a standard procedure for dressing control of pain, the proposal can provide psychological assessment tools for clinical nurses, intervene in psychological counseling as early as possible, strengthen knowledge and skills related to rehabilitation exercises, and serve as a reference basis for future nurses in taking care of such similar cases.

**NDP-54:**
THOUGH OF MULTIDISCIPLINARY COOPERATION TO REDUCING THE INCIDENCE OF FALL IN THE NEUROLOGICAL WARD

Shu-Chuan Chen, Yu-Chen Lin, Yue-Chi Huang
Department of Nursing, Taipei Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, New Taipei, Taiwan

**Objective:** Fall are common and should be prevented in the neurological ward; the mean incidence of fall in this ward was 0.17% in 2016. Significantly higher than that in other wards. Fall can cause physical injuries and can lead to an increase of length of stay or even death. This project primarily aimed to reduce the incidence of falls through interdisciplinary cooperation strategies.

**Materials and Methods:** Four main strategies of fall prevention were working. (1) Development-specific educational program of fall prevention for neurological patients and caregivers, comprising fall assessment flow sheets, fall prevention devices used during wheelchair use and bed transposition. (2) An individualized care plan for supporting high-fall-risk patients, requiring a multidisciplinary team of a nurse, physician, rehabilitation therapist, and nutritionist. A series of daily activities, namely muscle training, gait stability exercise, a nutrition supplement plan, and biopsy were administered to patients. (3) A safety bed-belt was prepared to alert caregivers to patient needs. This alert device can help caregivers to check and provide necessary assistance to patients when the patients leave their beds. (4) Information on fall prevention was” voice that care” that is healthcare education flyers for patients and their families to increase their knowledge of this topic. At the same time, each patient whom can stand well to do the 30 seconds station to develop patients and their families of insight as high-risk group for falls.
Results: Falls were defined as tumbles without resultant lesions. The average incidence of falls decreased from 0.17% to 0.14% from March to December 2017.

Conclusions: Specific educational programs, multidisciplinary care plans for fall prevention, safety bed-belts, and increase insight as high-risk group for falls can reduced the incidence of falls and severity of fall injuries. This project is showing that clinically effective and can serve as an example for other medical institutions to promote their falls prevention practices and to protect the safety and quality of care.

NDP-55: NURSING EXPERIENCES BY USING THIN WELL TANZI FULL HUMAN CARE MODEL TO CARE BURNS PATIENT
Shu-Ju Tsai, Fang-Yu Kang, Fang-Yu Shi
Department of Nursing, Taipei Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, New Taipei, Taiwan

Objective: According to the statistics of 2015 Ministry of Health and Welfare, the number of accidental injuries ranked the sixth among the top ten causes of death, among which young people aged 15 to 24 are more. In the past two years, accidents in Taiwan have been like accidents such as dust explosions, fires, and gas explosions. Caused many major burns and deaths. Severe traumatic burns have a higher mortality rate than common diseases. Early treatment must maintain effective respiration, intravenous fluid supplements, and wound treatment to improve survival.

Materials and Methods: Under the guide of Thin Well Tanzi full human care model, we used the methods of conversing, listening, and observing to engage in nursing evaluation and analysis in terms of the physical, psychological, social, and spiritual aspect. And thus we ensure that the health problems of this case are acute pain, impaired skin integrity, and body, image disturbance.

Results: And in terms of the nursing problem of acute pain, we taught the patient to shift the attention, using the essential oil diffuser instrument to reduce the discomfort. And in terms of body, image disturbance, we guided the patient’s feeling and provided proper measures. Additionally, in terms of impaired skin, besides discussing the use of Glutamine with the nutritionist, we taught the patient the healing method and the follow-up rehabilitation.

Conclusions: As a intensive caregiver, in addition to taking care of the physiological aspects, the psychological aspect needs more attention. It is hoped that the nursing problems and relevant nursing experiences that occur during the treatment of the burned patients provide future caregivers with experience sharing and sharing when taking care of similar cases.

NDP-56: IMPROVEMENT EXTRA VASATION INJURY PROJECT
Ya-Chun Chen
Department of Nursing, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan

Objective: Extravasation injury a high-cost of intravenous therapy administration complication. The incident of extravasation injury has been reported 0.1% to 6.5% of adult patients hospitalize. However, research to describe of extravasation injury from noncytotoxic drug is limit. This report have two propose (1) to explpor the noncytotoxic agents causing extravasation injury (2) To describe the skin injury characteristics and management outcome of extravasation injury.

Materials and Methods: A retrospective cohort study. Total 10 patients with extravasation injury treatment between October 2014 to 2017 October.

Results: The patient with mean age of 72 years (range 36 to 99) and 55% was female. 80%(n=8) occurred in the medical wards and causing by Alkaline agents (n=6, 60%).The common ares for extravasation injury were on the foot/wrist (3%). Over 7% patients had cardia vascular disease and chronic renal failure. The most common skin damage was stage 3 and stage 4. Average wound dimension was 40.3 cm^2 and mean time to heal of 66.8 days.

Conclusion: Through the systematic and structural skin care program can improve the healing rate of the skin, promote skin care quality. The study found that the resulting drug to occur in the most parts of the wounds of patients with more serious injuries to limbs more than two months or more healing. Extravasation of agents may cause severe physical and mental injuries to patients; therefore prevention of extravasation is a crucial issue. Nurses should be inform patients of the risk of extravasation or inspect skin integrity, and give patients and their families with appropriate information on the safety of intravenous care before administering.

NDP-57: ANTERIOR CERVICAL SPINE SURGERY COMPLICATED WITH ESOPHAGEAL PERFORATION: A CASE REPORT
Jhih-Yu Lin¹, Tzai-Chiu Yu², Shuo-Suei Hung³
¹Department of Nursing, Taipei Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, New Taipei, Taiwan; ²Department of Orthopedic Surgery, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan; ³Department of Orthopedic Surgery, Taipei Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, New Taipei, Taiwan

Cervical spondylosis caused by degenerative condition is the most common cervical disorder among all cervical diseases. One needs to consider surgical treatment if conservative treatment fails, disease progresses, or when there is severe neuro-vascular compression. Anterior cervical spine surgery can provide a high success rate and good long-term outcome. This was a 57-year-old male who had underwent anterior cervical spine surgery due to cervical spondylosis. After the operation, he had no obvious wound infection, but complained of choking and difficulty swallowing during liquid diet intake, therefore, he was discharged from the hospital after symptomatic relief via use of steroid. However, he noted of having sore throat, local heat and dysphagia few hours later, thus returned to our emergency room for further evaluation. Image studies revealed of esophageal perforation with deep neck infection, thus he underwent esophageal repair and debridement. However, leakage was found over the repair site on the eighth post-operative day, and rotational muscle flap coverage was performed. After such treatments, with the
addition of adequate drainage and nutritional support, his condition gradually showed improvement with complete healing of the wound, and he was discharged after 41-days of re-hospitalization. Esophageal perforation is a rare complication after anterior cervical spine surgery but it can be fatal if occurs. The situation should be highly suspected even when the patient is presented with common symptoms, such as dysphagia, hoarseness, pneumonia, fever, or dyspnea, which may happen frequently after receiving anterior cervical spine surgery. The only way to minimize the consequences of this catastrophic complication is early diagnosis and timely treatment.

NDP-58:
USING CARE BUNDLE TO REDUCE CATHETER-RELATED URINARY TRACT INFECTION IN CARDIOVASCULAR WARD

Si-Yin Lin1 Chin-Jen Liu2 Szu-Chin Chen1
1Department of Nursing, Taipei Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, New Taipei, Taiwan; 2Department of Cardiovascular, Taipei Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, New Taipei, Taiwan

Objective: In Taiwan, the Center for Disease Control is advocating infection-control care bundle including catheter-associated urinary tract infection (CAUTI). Otherwise, it will result in prolonged hospitalization and increasing utilization of medical cost. In our hospital, urinary tract infection has been the leading cause of all procedure-related infections since 2015. The infection rate of CAUTI was 1.38% in 2014 and it rose to 1.69% in Q2 of 2015. Implementation of CAUTI care bundle will reduce medical care-related infections only if it is completely complied with it. In addition to formal program, we implemented a protocol that recruiting patient himself and the family members to participate the care bundle of CAUTI in order to improve the care quality and reduce the rate of CAUTI.

Materials and Methods: The hospital task group started the program of intervention from July 2105. After primary surveying on 20 staffs on the performance of “urinary catheterization”, it revealed that, although the knowledge of CAUTI was 90% correct, the performance was only 55% correct. Since then, we introduced the care bundle programs for urinary catheterization in our medical /surgical wards. The programs are: (1) in-service education for the medical team members, including hand-on teaching and on-line learning; (2) evaluation of the technique of urinary catheterization by Mini-CEX protocol; (3) discussion about the possibility of catheter early removal in everyday morning meeting; (4) activating motivation for participation by designing and distributing care bundle cartoon cards.

Results: After the implementation of care bundle, The urinary catheterization-related infection rate decreased to 1.49% in 2016 and zero in 2017. The urinary catheter utilization ratio was decreased from 19.07% in 2016 to 15.52% in 2017.

Conclusions: Implementation of care bundle program effectively increases participation in patient safety care, and decreases the rates of CAUTI and urinary catheter utilization. Moreover, implementation of care bundle program results in better medical care quality.

NDP-59:
QUALITY OF LIFE IN PATIENTS WITH PARKINSON’S DISEASE AFTER SUBTHALAMIC STIMULATION: AN OBSERVATIONAL COHORT STUDY FOR OUTCOME PREDICTION

Jiin-Ling Jiang1, Shin-Yuan Chen2,3, Sheng-Tzung Tsai2,3
1Department of Nursing, Tzu Chi University, Hualien, Taiwan; 2Department of Neurosurgery, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan; 3School of Medicine, Tzu Chi University, Hualien, Taiwan

Objective: The objective of this study was to investigate changes in health-related quality of life (HRQoL) and motor and depressive symptoms in patients with Parkinson’s disease (PD) from baseline to 12 months following subthalamic nucleus deep brain stimulation (STN-DBS).

Materials and Methods: The study utilized a prospective observational cohort design. Thirty-three PD patients with good levodopa response but drug related morbidity were included. Parkinson’s disease Questionnaire-39 (PDQ-39) scores, Unified Parkinson’s disease rating scale (UPDRS) scores, Hoehn & Yahr (H & Y) stages, Beck Depression Inventory-II (BDI-II) scores, and levodopa equivalent daily doses (LEDD) were obtained at baseline and one year after surgery.

Results: Thirty-three patients with PD were included in the study. The average age of the subjects was 50.67 ± 9.03 years (range, 28-70); 51.5% were men. The mean duration of PD was 10.03 ± 3.42 years (range, 5-21). The average LEDD was 847.97 ± 373.66 mg (range, 13.75-1791.25). The mean score on the motor portion of the UPDRS under off-medication conditions was 40.03 ± 11.34 (range, 15-58). The enrolled subjects showed a significant HRQoL improvement of 21.43% at 12 months after STN-DBS as assessed by PDQ-39 total score. A 34.92% improvement in UPDRS scores from STN-DBS at one year follow-up. Sub-items analysis also revealed significant improvement in UPDRS part II, III and IV as well. LEDD was significantly reduced by up to 27.36% 12 months after surgery. The preoperative PDQ-39 total score and LEDD predicted postoperative HRQoL in PD following STN-DBS.

Conclusions: The current study demonstrated that STN-DBS surgery significantly improved HRQoL and motor outcomes of PD. The preoperative PDQ-39 score and LEDD were predictors of the efficacy of postoperative HRQoL following surgery.

NDP-60:
THE EFFECTS OF FUNCTIONAL FITNESS EDUCATION PROGRAM ON FUNCTIONAL FITNESS, PHYSICAL ACTIVITY ON KNOWLEDGE AND SELF-EFFICACY OF ELDERLY COMMUNITY CARE CENTER

Meng-Chuan Hsin, Chuan-Hsiu Tsai
Department of Nursing, Tzu Chi University, Hualien, Taiwan

Objective: Aging might lead to decline in the physiological function and further affect the ability to perform daily functions independently. The functional fitness test measures physical activity factors including muscle strength, flexibility, balance, and cardiorespiratory endurance. However,
community center failed to design health promotion programs reflecting the needs of their clients. The purpose of this study was to evaluate the effectiveness of the health promotion program tailored by elders’ performance of functional fitness tests results.

**Materials and Methods:** Randomized control experiment trial was utilized and elders were randomly assigned by sites to the intervention or control groups. Subjects were recruited from six community care centers in Hualien, and exercises training program were conducted once a week/one hour for twelve weeks. The intervention group attained the tailored functional fitness promotion courses, while the control group performed general health promotion courses. The generalized estimating equation (GEE) was used to analyze the effectiveness by analyzing changes of physical fitness tests results.

**Results:** A total of 225 people participated in the study. The average age is 75.49 years, and most of the elders were around 75-79 years old (24%). After 12-week intervention, the intervention group had significantly lower BMI than the control group (b = -0.76, p < 0.05). However, SFT did not reach significant differences. There was more walking-related physical activity changes than in the control group (b = 1.50, p < 0.05), but the time spent sitting was less than in the control group (b = -0.31, p < 0.05). The cognitive relevance of SFT and daily function in the intervention group were better than that of the control group (b = 43.66, p < 0.01), and the physical activity self-efficacy score was higher than that of the control group (b = 1.57, p < 0.05).

**Conclusions:** The results of this study revealed that elder gradually adapted to the daily physical workload after 12-week functional fitness training program. This result suggested that proper physical activity program could reduce obesity and maintain functional fitness. Lastly, the intervention group also strengthens self-control and awareness of the independent implementation of daily life skills.

**NDP-61:**
**APPLYING EXPERIENTIAL LEARNING TO IMPROVE THE ABILITY OF CLINICAL PROBLEM SOLVING**

Mei-Lin Hsieh1, Chi-Yen Chao2, Nai-Pang Yang1

1Department of Nursing, Tzu Chi University, Hualien, Taiwan; 2Department of Nursing, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan; 3School of Medicine, Tzu Chi University, Hualien, Taiwan

**Objective:** Teach students how to face the changeable clinical practice, identify patients’ problems timely and take appropriate intervention are the important missions for nursing teachers. Simulated situational practice (SSP) is different from traditional classroom teaching. SSP emphasizes learner-centered and allow students to experience the practical situation. In order to reduce the gap of knowledge-practice integration, the aim of study was to explore nursing students’ ability of clinical problem solving (ACPS) and the self-satisfaction of learning (SSL) after applying SSP teaching strategy.

**Materials and Methods:** This action teaching research applied Kolb’s four-phase dynamic interactive learning mode of experiential learning for senior nursing students. A single group repeated measurement was used to analyze the effectiveness of ACPS and SSL. Nursing students could experience, observe, reflect, and conceptualize the content of learning through the intervention of SSP. The outcomes of ACPS and SSL were evaluated by Experience Learning Effectiveness Questionnaire (ELEQ). Likert scale 5-point scale was used (1-strongly disagree and 5-strongly agree) to evaluate the outcomes. Statistical analyses were using the SPSS statistical software package for Microsoft Windows (version 22.0). Descriptive statistical data was presented as frequency, percentage, mean, and standard deviation. Paired t test analysis and one way RM-ANOVA were used to compare the outcomes of effectiveness. Statistically significant was defined as p < 0.05.

**Results:** There were twenty students in this study and average age was 22.45 ± 0.37 y/o. The average scores of ACPS in pre-test, mid-term and final test were 3.60 ± 0.40, 4.10 ± 0.47 and 4.35 ± 0.46. Comparing pre-test vs mid-term, pre-test vs final, and mid-term vs final all were achieved the significant difference (p < 0.05). The results of ACPS in three time period were reached significant difference (p < 0.05). The average score of SSL was increased and showed the significant difference (p < 0.05).

**Conclusions:** The study found that SSP could improve the learning effectiveness of ACPS and SSL. The greatest improvement item was critical thinking skills. Although the performance score of SSL was the lowest, however, was the most progress score up. SSP is the useful teaching method of experiential learning. We hope that students can carry out abstract critical thinking processes and solve clinical problems effectively with concrete reasoning methods.

**NDP-62:**
**CORRELATION BETWEEN THE NATIONAL INSTITUTES OF HEALTH STROKE SCALE AND BARTHEL INDEX OF SEVERE CEREBROVASCULAR PATIENTS UNDER COMBINATION CARE OF CHINESE MEDICINE - RETROSPECTIVE RESEARCH**

Hsiang-Ju Chen

Division of Traumatology, Department of Chinese Medicine, Taichung Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Taichung, Taiwan

**Objective:** Combination care of Traditional Chinese medicine and western medicine can reduce medication cost of cerebrovascular disease. During hospitalization period, stroke patients can receive treatment under the “National Health Insurance Western Chinese Hospitalized Patient TCM Special Disease Supplementary Medical Program”. Advantage of combination care in acute phase of severe cerebrovascular disease has been proved by retrospective study in Taichung Tzuchi hospital. Patients with NIHSS (The National Institutes of Health Stroke Scale) ≥15 and received combination care within 7 days after stroke have significant improvement in NIHSS after 13-15 days. The Barthel Index has also improved significantly. However, the relationship between NIHSS and Barthel Index in combined treatment has not been explored yet. Therefore, this study aim to investigate the correlation between NIHSS and Barthel Index in acute phase of severe cerebrovascular disease under combined treatment.

**Materials and Methods:** Medical records of patients diagnosed with ICD-9 (430-438) from January 2016 to December
2016 under “National Health Insurance Western Chinese Hospitalized Patient TCM Special Disease Supplementary Medical Program” and which meets all inclusion and exclusion were included. Inclusion criteria: (1) Patient who had hospitalization within 2 days (48 hours) after stroke (2) patient who accepted combination care within 7 days after stroke (3) NIHSS ≥15 (4) Hospitalization ≥14 days (5) During TCM consultation period, at least two visit was completed by the TCM case manager, and the second visit were conducted within 13-15 days after first visit. Exclusions: (1) Incomplete or missing information in consultation records (2) Those who did not undergo TCM treatment after consultation (3) Those with missing NIHSS or Barthel Index information (4) Those with unknown date of stroke occurrence (5) Those who had another stroke in past 3 month (6) Those did not complete the second assessment during the TCM consultation period.

Results: According to the inclusion and exclusion criteria of the study, 23 cases (13 males and 10 females, average age 65.10 ± 11.05 years) were included. And the data were analyzed by SPSS (V18) in May 2017 with Pearson test. Preliminary analysis indicates that (1) Pre-test of NIHSS and post-test of NIHSS were positively highly correlated (p<0.01***). (2) Pre-test of NIHSS and change in NIHSS were positively moderately correlated (p<0.05*). (3) Pre-test of NIHSS and pre-test of Barthel index were negatively moderately correlated (p<0.01**). (4) Pre-test of NIHSS and post-test of Barthel index were negatively moderately correlated (p<0.01**). (5) There was no significant correlation between Pre-test of NIHSS and change in Barthel Index.

Conclusions: NIHSS and Barthel Index in acute phase of severe cerebrovascular disease under combined treat of Chinese treatment and western medicine were moderately to highly correlated. And both two scale has important value in combined treatment.