論文發表注意事項

【口頭論文發表】

- 試片室：7 樓 701C 會議室及 701G 會議室外小房間
- 口頭報告者請務必於該場次開始前 30 分鐘將隨身碟自行攜帶送至試片室進行測試，以避免中途影響會議速度進行，請先行測試檔案與隨身碟讀取正常。
- 一般論文口頭發表，每題 12 分鐘(報告 10 分鐘，討論 2 分鐘)，請各演講者務必控制報告時間，演講時間結束後即開燈結束演講。
- 學會於90年新增『年會論文優秀論文獎』，口頭發表及壁報發表分別評分。優秀論文獎得獎名單於會員大會公佈並頒獎。
- 得獎公佈—會員大會
  時間：112 年 12 月 10 日(星期日)上午 11:30 至 12:00 (請得獎者務必在現場)
  地點：701B會議室

- Our Preview Room are located outside of conference rooms 701B and 701F
- ***Oral Presentation***

Presentation Time
12 Minutes: including 10 minutes of presentation and 2 minutes of Live Q&A
Presentation Specification
***All oral presentation must Present LIVE.** File Type: **PPT or PPTX** only File Name: Oral_AbstractID_Name (e.g: OralPresentation1_25_Lin)

Oral Presentation 3 (Chinese)

December 9 (Saturday), 2023　09:00 ~ 10:15　　Room 6 (703)

【Clinical-1】　*Chair(s)：宋志建/ Chih-Chien Sung、張育誌/ Yu-Tzu Chang*

09:00—09:12

1. Exploring the Cardiovascular and All-Cause Mortality Outcomes of SGLT2 Inhibitors in Patients with Diabetes Initiated on Acute Renal Replacement Therapy: Filling the Gap in Research

Chung-An Wang[1], Li-Chun Lin[2], Jui-Yi Chen[3], Wei-Jie Wang[4], Vin-Cent Wu[5]
[1] Taipei Medical University School of Medicine, [2] National Taiwan University Hospital Department of Internal Medicine, Division of Nephrology, [3] Chi Mei Hospital Department of Nephrology, [4] Taoyuan General Hospital Department of Nephrology, [5] National Taiwan University Hospital Study Group on Acute Renal Failure (NSARF)

09:12—09:24

2. Application of CPFA in Children with Acute Liver Failure: A bridging Therapy

Nai-Chia Fan[1], Jann-Jim Lin[2], Shao-Hsuan Hsia[3], Min-Wei Lai[4], Min-Hua Tseng[1]
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[4] Division of Pediatric Gastroenterology, Department of Pediatrics, Chang Gung Memorial Hospital, Linkou Branch, Taiwan

09:24—09:36

3. Dipeptidyl Peptidase 4 Inhibitors Reduced Risk of Adverse Outcomes in Diabetes Patients after Acute Kidney Injury

Hung-Wei Liao[1], Chung-Yi Cheng[1], Jui-Yi Chen[2], Heng-Chih Pan[3], Tao-Min Huang[4], Vin-Cent Wu[4]
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09:36—09:48

4. Performance of urinary C–C motif chemokine ligand 14 for the prediction of persistent acute kidney injury

Wei-Yu Chen[1], Yih-Ting Chen[1], Cheng-Kai Hsu[1], Chiao-Yin Sun[1], Chun-Yu Chen[1], Yi-Hung Chen[2], Heng-Jung Hsu[1], I-Wen Wu[3], Vin-Cent Wu[4] and Heng-Chih Pan[1]
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Oral Presentation 3 (Chinese)

December 9 (Saturday), 2023 09:00 ~ 10:15 Room 6 (703)

09:48—10:00

5. Correlation of sociodemographic profiles with depression and sleep disturbance among hospitalized patients receiving unplanned hemodialysis

Yu-Yin Kao[1], Jin-Bor Chen[2], Wen-Chin Lee[2]
[1] Department of Nursing, Kaohsiung Chang Gung Memorial Hospital
[2] Division of Nephrology, Department of Internal Medicine, Kaohsiung Chang Gung Memorial Hospital and Chang Gung University College of Medicine, Kaohsiung, Taiwan

10:00—10:12

6. Long-term Impacts of Xenoestrogen Exposure on Kidney Function: A Community-Based Cohort Study

Yun-An Liu[1], Chin-Chan Lee[1,2,3], Heng-Jung Hsu[1,2,3], I-Wen Wu[4], Yung-Chang Chen[2], Heng-Chih Pan[1,2,3], Yih-Ting Chen[1,2,3], Cheng-Kai Hsu[1,2], Chiao-Yin Sun[1,2,3], Chun-Yu Chen[1,2,3]
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【Oral Presentation 3】
【Clinical-1】 Room 6 (703)

1

Exploring the Cardiovascular and All-Cause Mortality Outcomes of SGLT2 Inhibitors in Patients with Diabetes Initiated on Acute Renal Replacement Therapy: Filling the Gap in Research

填補研究不足之處：SGLT2 抑制劑對於急性腎臟替代治療的糖尿病患者心血管與死亡風險的影響

Chung-An Wang[1], Li-Chun Lin [2], Jui-Yi Chen[3], Wei-Jie Wang[4], Vin-Cent Wu[5]
王崇安 [1], 林俐君 [2], 陳銳溢 [3], 王偉傑 [4], 吳允升 [5]
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Background：
Sodium-glucose cotransporter 2 inhibitors (SGLT2i) represent a class of antihyperglycemic medications with proven cardiovascular and renal benefits. However, their impact on individuals with diabetes (DM) undergoing acute renal replacement therapy (RRT) remains unclear. This study investigates the cardiovascular effects of SGLT2 inhibitors in DM patients initiated on acute RRT.
Methods：
A cohort study using data from the TriNetX electronic health record network included 69,721 diabetic patients who commenced acute dialysis between September 30, 2020, and September 30, 2023. The cohort was divided into SGLT2i users (n=610) and non-users (n=69,111) and subjected to 1:1 propensity score matching. Primary outcomes included 4-point major adverse cardiac events (4P-MACE) and all-cause mortality, while secondary outcomes covered ketoacidosis.
Results：
SGLT2i users exhibited a lower risk of MACE (adjusted hazard ratio (aHR) = 0.58, 95% CI = 0.41-0.80), all-cause mortality (aHR = 0.50, 95% CI = 0.39-0.64). However, they had an increased risk of ketoacidosis (aHR = 1.86, 95% CI = 1.06-3.25) compared to non-users. These benefits remained consistent across different stages of renal function, suggesting that SGLT2i use did not pose disadvantages in various renal health conditions.
Conclusions：
This study provides a comprehensive analysis of SGLT2 inhibitor effects on the cardiovascular health of DM patients initiating acute dialysis. It confirms a reduced risk of mortality, MACE, though with an increased risk of ketoacidosis. Importantly, these findings establish the cardiovascular protection and safety of SGLT2i use in DM patients undergoing acute dialysis.
Key words：
Renal replacement therapy (RRT), Sodium-Glucose Cotransporter 2 inhibitors (SGLT2i)

2

Application of CPFA in Children with Acute Liver Failure: A bridging Therapy

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Background:

Coupled plasma filtration adsorption (CPFA) is a detoxification technique that combines plasma absorption with continuous renal replacement therapy. The CPFA circuit includes the following equipment; a plasma filter, a resin/adsorbent cartridge, and a haemofilter. Although it has been deliveerd in patients with sepsis with or without septic shock, CPFA as temporary treatment might serve as bridge to liver transplantation or spontaneous recovery. However, there is limited data on the utilization of CPFA in children with acute liver failure.

Methods:

Childern with decompenstaroy acute liver failure (DALF) receving CPFA at Chang Gung Memorial Hospital, Linkou during 2015 to 2023 were studied. The demogarphic and clinical characteristics, response to CPFA, and clinical outcome were record and analyzed.

Results:

CPFA was administered in three cases, all of which were male and had a mean age of 9 years old. These patients initially presented with icteric sclera, nausea, and vomiting upon admission, and were subsequently diagnosed with acute fulminant hepatitis. The underlying etiologies were determined to be drug-induced liver injury and Wilson's disease, and clinical manifestations included hyperbilirubinemia, coagulopathy, and elevated ammonia levels. CPFA was indicated for two of the patients due to hepatic encephalopathy and one due to persistent hyperbilirubinemia (with a total bilirubin level of approximately 20 mg/dL). Each patient underwent a single CPFA session. Following CPFA treatment, there was an average 6-hour reduction rate of 33% in total bilirubin levels. Moreover, international normalized ratio (INR) levels decreased from over 2.0 to approximately 1.2, and ammonia levels decreased significantly (with two cases dropping from over 140 ug/dL to around 70 ug/dL). Only one patient experienced a skin allergy as an adverse event during CPFA, with no other complications observed in the treated patients. The patient with Wilson's disease underwent a liver transplantation two days after receiving CPFA. On average, patients were discharged 26 days after CPFA treatment. Overall, the efficacy and safety of CPFA demonstrated favorable outcomes in our patient cohort.

Conclusions:

The favoriate outcomes without complications of reported patients highlight the feasibility and safety of CPFA in children with DALF to the possibility of spontaneous recovery or liver transplantation. Further studies are warranted to comprehensively investigate the potential efficacy of CPFA in children.

Key words:

#Coupled plasma filtration adsorption (CPFA) #acute liver failure #children

3

Dipeptidyl Peptidase 4 Inhibitors Reduced Risk of Adverse Outcomes in Diabetes Patients after Acute Kidney Injury

二肽基肽酶 4 抑制劑可降低糖尿病患者急性腎損傷後出現不良後果的風險

Hung-Wei Liao[1], Chung-Yi Cheng[1], Jui-Yi Chen[2], Heng-Chih Pan[3], Tao-Min Huang[4], Vin-Cent Wu[4]

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Background：

Dipeptidyl peptidase 4 inhibitors (DPP4i) are considered safe for use in diabetes mellitus (DM) patients with kidney dysfunction. This study explores whether usage of DPP4i who recovered from dialysis requiring acute kidney injury (AKI) could reduce risk of future major adverse outcomes.

Methods：

We utilized the TriNetX platform to investigate whether the utilization of DPP4i in DM patients within 90 days in patients with acute kidney disease (AKD) could reduce the risk of all-cause mortality, major kidney events (MAKE), and major adverse cardiovascular events (MACE) and re-dialysis. The patients were followed for 5 years or until the occurrence of outcomes of interesting.

Results：

The cohort utilizing DPP4i comprised 7,348 patients with AKD, while the control group encompassed 229,417 individuals. After applying propensity score matching, 7343 patients (age, 66.2 ± 13.4; male, 49.9 %) of DPP4i utilization demonstrated a significant reduction in the risk of all-cause mortality (HR, 0.87), MAKE (HR, 0.87), MACE (HR, 0.90), and re-dialysis (HR, 0.76). External validation further conducted by a multicenter database revealed consistent positive results among DPP4i users (mortality: HR, 0.72; MAKE: HR, 0.67; MACE: HR, 0.73; re-dialysis: HR, 0.62). Subgroup analysis consistently revealed better outcomes for DPP4i users such as heart failure, proteinuria, BMI over 30 kg/m^2, or without kidney insufficiency.

Conclusions：

Our findings demonstrated that DM patients concomitant AKD, DPP4i usage demonstrated a reduced risk of all -cause mortality, MAKE, and MACE. These findings emphasize the pivotal role of tailored treatment strategies involving DPP4i in patients with AKD.

Key words：

Acute kidney disease; acute kidney injury; dipeptidyl Peptidase 4 inhibitors; mortality, major adverse kidney events; major adverse cardiac events, re-dialysis

4

Performance of urinary C–C motif chemokine ligand 14 for the prediction of persistent acute kidney injury

尿液 C–C motif chemokine ligand 14 在預測持續性急性腎損傷中的表現

Wei-Yu Chen[1], Yih-Ting Chen[1], Cheng-Kai Hsu[1], Chiao-Yin Sun[1], Chun-Yu Chen[1], Yi-Hung Chen[2], Heng-Jung Hsu[1], I-Wen Wu[3], Vin-Cent Wu[4] and Heng-Chih Pan[1]

陳韋羽 陳奕廷 潘恆之 許程凱 孫樵隱 陳俊宇 陳怡虹 許恆榮 吳逸文 吳允升

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Background：

Acute kidney injury (AKI) is linked to higher mortality, particularly in critically ill patients. Urinary C-C motif chemokine ligand 14 (CCL14) has been considered as a predictor for persistent AKI, though its effectiveness varies across clinical trials. This meta-analysis evaluates the predictive performance of urinary CCL14 for persistent AKI.

Method：

In line with the PRISMA guidelines, we searched the PubMed, Embase, and Cochrane databases until April 2023 to identify studies involving adults (aged over 18) that presented data on the effectiveness of urinary CCL14 as a diagnostic tool. We collected and assessed information regarding sensitivity, specificity, the number of events, true positives, and false positives. To summarize the overall test performance, we utilized hierarchical summary receiver operating characteristic curves (HSROCs), and we evaluated the quality of evidence using the Grading of Recommendations, Assessment, Development, and Evaluations criteria.

Result：

In this meta-analysis, we incorporated six studies encompassing 952 patients. Among these patients, the incidence of persistent AKI stood at 39.6% (377 out of 952). The aggregated results revealed that urinary CCL14 exhibited a sensitivity of 0.81 (95% CI 0.72–0.87) and a specificity of 0.71 (95% CI 0.53–0.84) in predicting persistent AKI. The combined positive likelihood ratio (LR) was 2.75 (95% CI 1.63–4.66), and the negative LR was 0.27 (95% CI 0.18–0.41). The HSROC analysis yielded a pooled diagnostic accuracy of 0.84.

Conclusion：

In summary, our findings indicate that urinary CCL14 serves as a reliable marker for the prediction of persistent AKI.

Key wards： Acute kidney injury, Biomarker, urinary C-C motif chemokine ligand 14, CCL14

5

Correlation of sociodemographic profiles with depression and sleep disturbance among hospitalized patients receiving unplanned hemodialysis

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Background：Depression and sleep disturbances are the two most common psychiatric and psychological problems in the chronic kidney disease (CKD) population. In this prospective study, we aimed to examine the sociodemographic and clinical factors associated with psychological disorders in CKD patients receiving unplanned hemodialysis (HD).

Methods： A total of 206 advanced chronic kidney disease patients receiving unplanned hemodialysis were included prospectively from January 2015 to December 2017 at a tertiary hospital. The inclusion criteria were (1) age ≥20 years; (2) unplanned HD initiation in hospitalized patients; and (3) no renal-replacement therapy prior to recruitment. The exclusion criteria were: (1) having a history of psychiatric illness or taking psychiatric medications before hospitalization; and (2) being unable to communicate orally. All patients received unplanned HD via a temporary tunneled HD catheter either in the femoral vein or internal jugular vein. The structured questionnaires gathered data about depression and sleep disturbances from the participants. Appropriate statistical methods and the Pearson correlation test were used to examine the relationships between sociodemographic and laboratory parameters and scores of depression and sleep disturbance.

Results：The mean age of participants was 60.14 years, and included 101 females and 105 males. The majority of the participants presented severe depression and sleep disturbances as individually measured psychological indicators. There were no significant differences between depression, sleep disturbance, and sociodemographic profile scores, including sex, age, marital status, religion status, educational levels, employment status, and awareness of renal disease. The number of comorbidities also did not influence the scores in the measured depression and sleep disturbance indicators. The multidisciplinary chronic kidney disease program and the outpatient visit frequency to the clinic showed significant negative correlations with measured depression and sleep disturbance indicators.

Conclusions： Our study showed a heavy psychological burden in unplanned HD patients, as indicated by depression and sleep disturbances. These psychological disturbances did not exhibit a significant association with the sociodemographic profile.

Keywords： unplanned hemodialysis, depression, sleep disturbance.

6

Long-term Impacts of Xenoestrogen Exposure on Kidney Function: A Community-Based Cohort Study

異源雌激素長期暴露對腎功能的影響：社區世代研究

Yun-An Liu[1], Chin-Chan Lee[1,2,3], Heng-Jung Hsu[1,2,3], I-Wen Wu[4], Yung-Chang Chen[2], Heng-Chih Pan[1,2,3], Yih-Ting Chen[1,2,3], Cheng-Kai Hsu[1,2], Chiao-Yin Sun[1,2,3], Chun-Yu Chen[1,2,3]

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Background：

Current cross-sectional research identifies a relationship between xenoestrogen (XE) exposure and adverse health outcomes, particularly chronic kidney disease.

Methods：

The Chang Gung Community Research Center initiated a community-based longitudinal cohort study, enrolling 887 participants. Based on their XE exposure scores, a subset of 120 individuals was selected for detailed evaluations that encompassed analysis of urinary levels of 17 XE metabolites and the prospective monitoring of renal function.

Results：

Results showed participants with higher XE exposure had increased levels of mono-(2-ethylhexyl) phthalate (MEHP) and bisphenol A. Importantly, MEHP levels positively correlated with the urinary albumin-to-creatinine ratio (UACR), independently predicting over a 15% decline in the estimated glomerular filtration rate. Notably, participants with elevated MEHP levels displayed a trend towards deteriorating renal function. Moreover, significant increases in UACR were associated with higher levels of specific XEs, including MEHP, methylparaben, nonylphenol, and 4-tert-octylphenol.

Conclusions：

Exposure to certain XEs, notably MEHP, may contribute to detrimental long-term effects on kidney function.

Key words：

endocrine disrupting chemicals; phenol; phthalate; paraben; chronic kidney disease; xenoestrogen