## APSN/HKSN CME Course
### 7 October 2023 (Saturday)
Kowloon Shangri-La, Hong Kong

<table>
<thead>
<tr>
<th>Time</th>
<th>Programme</th>
<th>Speakers</th>
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<tbody>
<tr>
<td>13:30-14:00</td>
<td>Registration</td>
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<td>14:00-14:10</td>
<td><strong>Opening Address</strong></td>
<td>Dr. Kai Ming CHOW</td>
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<td>1) Chairman, Hong Kong Society of Nephrology</td>
<td>Prof. Sydney Chi Wai TANG</td>
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<td>2) President, Asian Pacific Society of Nephrology</td>
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### Session 1: Organ Shortage
Chairs: Prof. Sydney Chi Wai TANG and Dr. Yuk Lun CHENG

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<thead>
<tr>
<th>Time</th>
<th>Programme</th>
<th>Speakers</th>
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| 14:10-14:40 | Xenotransplantation: moving to clinical use, are there any remaining obstacles? | Prof. Wayne HAWTHORNE  
The University of Sydney, Australia |
| 14:40-15:10 | Paired kidney exchange donation                     | Dr. Peter HUGHES                                                        |
|           |                                                     | Royal Melbourne Hospital, Australia                                      |
| 15:10-15:20 | Discussion/Q&A                                      |                                                                          |
| 15:20-15:50 | Group Photo & Coffee Break                         |                                                                          |

### Session 2: Nephrology Consultations
Chairs: Dr. Gary Chi Wang CHAN and Dr. Jack Kit Chung NG

<table>
<thead>
<tr>
<th>Time</th>
<th>Programme</th>
<th>Speakers</th>
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<tbody>
<tr>
<td>15:50-16:20</td>
<td>What a nephrologist needs to know in oncology ward</td>
<td>Dr. Su Mein GOH</td>
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<td>Tan Tock Seng Hospital, Singapore</td>
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<td>16:20-16:50</td>
<td>What a nephrologist needs to know about patients awaiting liver transplantation</td>
<td>Dr. James Yan Yue FUNG</td>
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<td>Queen Mary Hospital, Hong Kong</td>
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<td>16:50-17:00</td>
<td>Discussion/Q&amp;A</td>
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### Session 3: Nephrology Grand Round Led by Young(er) Nephrologists – Case Presentation
Chairs: Dr. Clara POON and Dr. Terence Pok Siu YIP

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<th>Time</th>
<th>Programme</th>
<th>Speakers</th>
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<tbody>
<tr>
<td>17:00-17:20</td>
<td>Compliment, or complement?</td>
<td>Dr. Sam Lik Fung LAU</td>
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<td>Prince of Wales Hospital, Hong Kong</td>
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<td>17:20-17:40</td>
<td>M &amp; M</td>
<td>Dr. Benjamin Yu Fai SO</td>
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<td>Queen Mary Hospital, Hong Kong</td>
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<td>17:40-18:00</td>
<td>A and B</td>
<td>Dr. Zi CHAN</td>
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<td>United Christian Hospital, Hong Kong</td>
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<td>18:00-18:10</td>
<td>Discussion/Q&amp;A</td>
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## Closing Remarks

*The programme is subject to change without prior notice.*
Xenotransplantation: moving to clinical use, are there any remaining obstacles?

Medical researchers and clinicians have been endeavoring to move Xenotransplantation to the clinic for centuries. This lecture will detail the journey that xenotransplantation has taken from the first modern medical reference of *Xenotransplantation* in 1667, when the French Surgeon ‘Jean-Baptiste Denys’ transfused blood from lambs into patients. Here I will provide an overview of the highlights of *Xenotransplantation* over the last century, both in research models and some of the naïve pioneering clinical attempts to get to where we now are approaching successful clinical reality!

Preventing the ready application of *Xenotransplantation* there have been many significant barriers; these have included the physiological, anatomical, ethical, social and legislative hurdles to surmount to get to the finish line and final clinical application. At this pivotal peak we continue to require continued guidance and close interaction between the international guiding bodies, the International Xenotransplantation Association (IXA), The Transplantation Society (TTS) and the World Health Organization (WHO) along with the local legislative authorities. This is essential to ensure oversight of what is required; to ensure appropriate safety measures are taken and safety monitoring are undertaken. This is particularly relevant with the current pandemic where the introduction of potential unknown viruses could play a role in immunosuppressed patients.

We require long-term monitoring of *Xenotransplantation* trials, with established outcomes and a registry which is updated regularly, in line with the current IXA recommendations. Additionally, continuous updates to world guidelines and regulatory guidance documents are indicated, in line with the ongoing technological advancements and findings from current pre-clinical and clinical studies, to ensure the most up-to-date implementation of guidance at the global level. Strong regulatory oversight can foster this at the global level under the umbrella of the three international guiding organizations of the IXA, TTS and WHO. Including the summary of the historical aspects this lecture will provide an update on how Guidance’s have occurred, and I will also provide data from the recent clinical and underpinning preclinical cases in *Xenotransplantation*.

These most cutting edge experimental and clinical transplant outcomes are demonstrating incredible outcomes in their overwhelming success and ultimate outcome of moving *Xenotransplantation* to the clinic!
Paired kidney exchange donation

Dr. Peter HUGHES
Royal Melbourne Hospital, Australia

Paired kidney exchange has been demonstrated to be a successful strategy to allow living donor kidney transplantation when a donor has been found to be incompatible with their planned recipient. This presentation will outline the initial design of the national paired kidney exchange program in Australia, the challenges that have been identified over time and modifications that have been made to overcome them. It will also cover ways the program has evolved to improve the rate of matching and transplantation, changes to include ‘compatible pairs’ seeking better HLA matching and its expansion in 2019 to include both Australia and New Zealand.
Onconephrology is a growing subspecialty due to the needs of patients who have cancer and suffer from kidney disease. This has been attributed to a worldwide trend of ageing populations, a rapid expansion in the armamentarium of oncological treatments and wider access to CKD care.

My talk will focus on these main points:

1) **Acute kidney injury**
   (i) Tumour lysis syndrome
   Tumour lysis syndrome is a “must-know-must-recognise” onconephrology emergency. Timely consult and intervention are essential to prevent the catastrophic deterioration of the patient due to electrolyte derangements.
   (ii) Thrombotic microangiopathy
   TMA can be a paraneoplastic syndrome in certain types of cancers. Other patients-at-risk include those on VGEF, conventional chemotherapies or post hematopoetic stem cell transplants recipients.
   (iii) Cisplatin-related kidney injury/electrolyte derangements
   Cisplatin is a widely used chemotherapeutic agent and causes does-related acute tubular toxicity. It can also induce several types of electrolyte derangements due to tubulopathies.

2) **Common electrolyte derangements: Hypercalcemia, hyponatremia and hypomagnesemia**
   Electrolyte derangements are a common problem. These may be due to a paraneoplastic syndrome, bone metastases or due to chemotherapy.

3) **Immune check point inhibitors**
   With the increasing use of these drugs to treat a growing list of cancers, nephrologists need to be familiar with its effects on the kidney – tubulointerstitial nephritis, pauci-immune glomerulonephritis, the role of kidney biopsy and the fine balance between maintaining kidney health and a good oncological outcome.

4) **CKD and cancer**
   There is a bidirectional link between CKD and cancer -cancer treatment and factors increase the risk of developing CKD; CKD patients have a higher lifetime risk of developing cancer. Accurately evaluating GFR is essential for drug dosing to prevent over or under-dosing chemotherapy drugs.
Renal injury is common in patients awaiting liver transplantation, with acute kidney injury (AKI) occurring in up to 50% of hospitalized cirrhotic patients. The cause of renal impairment is often multifactorial, and may or may not be directly related to the underlying liver impairment. The initial step is directed at risk management, including withholding all nephrotoxic medications and identify and treating precipitating causes, and ensuring adequate hydration. It is often difficult to distinguish prerenal AKI with that of acute tubular necrosis and hepatorenal syndrome (HRS), although the use of biomarkers such as cystatin C and urinary neutrophil gelatinase-associated lipocalin (nGAL) may be useful. The development of HRS is associated with poor outcome, and early treatment with vasoconstrictors should be implemented. The current first line treatment of AKI-HRS include the combination of terlipressin with albumin. An often-underdiagnosed entity that is likely a common cause of AKI in liver failure patients is bile cast nephropathy (BCN), especially in cases where serum bilirubin is extremely high. Although the definitive treatment would be timely liver transplantation, this is often not possible with the low availability of donor grafts. Considerations should be given to extracorporeal therapies including haemodialysis and plasma exchange in patients to prevent BCN. Optimization of renal function prior to liver transplantation is essential as the development of renal impairment as an additional extra-hepatic organ failure will impact on survival on the waiting list and after transplantation, and also on post-transplant renal function. Simultaneous liver-kidney transplant remains controversial, although it may be considered on an individual basis for those with established chronic kidney disease or sustained AKI.
A 49-year-old man presented with progressive ankle edema and a 3x1cm left shin ulcer which was acquired from a minor injury during hiking. His serum creatinine was 102µmol/l, serum albumin 28g/L, spot urine protein to creatinine ratio 3.1. Further investigation showed a decreased serum complement 3 level and normal complement 4 level. Serum protein electrophoresis revealed IgM paraprotein of 2.1g/L with no immunoparesis. The shin ulcer was treated after a course of oral amoxicillin and clavulanate, the edema resolved quickly with spot urine protein to creatinine ratio improved to 0.9.

His edema recurred 6 months later, serum creatinine was static at 110µmol/l but spot urine protein to creatinine ratio increased to 3.5. His serum complement 3 level remained depressed and complement 4 level was normal. Repeated serum protein electrophoresis showed IgM paraprotein of 2.1g/L. Renal biopsy showed membranoproliferative glomerulonephritis (MPGN).

An MPGN pattern of injury may be found in many unrelated disorders. Identification of the underlying pathogenic mechanism of the injury is crucial for guiding management. This case demonstrated the importance of renal biopsy in identifying the MPGN pattern of injury and establishing the diagnosis of monoclonal gammopathy of renal significant (MGRS)-related disease. This lecture will focus on the approach to MPGN, and the subsequent evaluation of MGRS-related disease.
Kidney involvement is common in plasma cell disorders, including multiple myeloma. The clinical manifestations of kidney involvement are varied, and depend on the underlying renal lesion. Light chain cast nephropathy (LCCN) is a well-known renal manifestation of multiple myeloma. Definitive diagnosis often requires a kidney biopsy, and there are doubts about the value of such an invasive procedure in the acute setting, particularly for frail patients with a newly diagnosed haematological malignancy. Furthermore, there are remaining questions regarding the optimal treatment of LCCN once the diagnosis has been established, especially with respect to the role of extracorporeal treatments for light chain removal.

In this case presentation, we describe an elderly patient presenting with acute kidney injury and the workup leading up to a diagnosis of LCCN. In addition to reviewing the typical clinic-pathological features of LCCN, the literature surrounding investigations for LCCN will be appraised, with a particular focus on the situations where the need for kidney biopsy may be obviated. We further discuss the treatment of LCCN in the modern age of bortezomib-based chemotherapy, and unanswered questions regarding the role of newer agents such as daratumumab. Finally, we explore the issue of extracorporeal treatments including plasma exchange and high cutoff haemodialysis in LCCN.
Abstracts

Session 3: Nephrology Grand Round Led by Young(er) Nephrologists –
Case Presentation

A and B

Dr. Zi CHAN
United Christian Hospital, Hong Kong

Background
Antineutrophil cytoplasmic antibody (ANCA) – associated vasculitis usually presents with rapidly progressive glomerulonephritis. Acute interstitial nephritis (AIN), often drug-induced, is a frequent cause of kidney injury. We present a case with both features on renal biopsy following treatment with pantoprazole.

Case presentation
A 75-year-old woman was admitted to our hospital due to acute kidney injury. She had knee osteoarthritis and a recent history of non-steroidal anti-inflammatory drugs (NSAID)-induced peptic ulcer. NSAID was stopped and she was started on pantoprazole one month prior to the index admission. She developed pulmonary haemorrhage after admission. Myeloperoxidase-ANCA came back to be positive. Renal biopsy showed focal crescentic glomerulonephritis and prominent feature of AIN. Treatment with plasma exchange, steroid and cyclophosphamide resulted in both renal and pulmonary recovery.

Discussion
While interstitial infiltrates can present in ANCA glomerulonephritis, proton pump inhibitors (PPI) are also well known to be associated with AIN. In fact, there are a few case reports of drug-induced AIN together with ANCA associated vasculitis. The reported drugs included propylthiouracil, cimetidine, indomethacin, immune checkpoint inhibitor, various antibiotics and PPI. We could not ascertain whether our case was due to pantoprazole. But due to the close temporal relationship, pantoprazole was stopped for the benefit of doubt.
Exhibition Floorplan

Venue: Orchid Room & Foyer, Kowloon Shangri-la Hong Kong

Company Stand No.
Astellas Pharma Hong Kong Co. Ltd. 15
AstraZeneca Hong Kong Ltd. 2
Baxter Healthcare Ltd. 8
Bayer HealthCare Ltd. 9
Boehringer Ingelheim (Hong Kong) Ltd. 13
DKSH Hong Kong Ltd. 16
Fresenius Kabi Hong Kong Ltd. 7
Fresenius Medical Care Hong Kong Ltd. 11
GlaxoSmithKline 10
Kyowa Kirin Hong Kong Co., Ltd. 1
Novartis Pharmaceuticals (HK) Ltd. 14
Novo Nordisk Hong Kong Ltd. 4
Otsuka Pharmaceutical (H.K.) Ltd. 3
Pfizer Corporation Hong Kong Ltd. 5
Sanofi Hong Kong Ltd. 12
Acknowledgement

The Hong Kong Society of Nephrology would like to extend their sincere thanks to the following sponsors for their ever unfailing support and generous contribution to the CME Course and Annual Scientific Meeting 2023.