

Renal medicine – the interface with specialty colleagues

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INTRODUCTION

'Collaboration is key' was the message from this symposium. Fittingly, there was great breadth in contributions from nephrology, other medical specialties, intensive care, and psychiatry, and global webstreaming to international delegates in 18 countries.

RENAL AND RHEUMATOLOGY

Vasculitis is a challenging multisystem condition to treat, but often lethal without treatment. Dr Neil Basu (University of Aberdeen) described his experience as a rheumatologist in a multidisciplinary vasculitis service. Close partnership of neighbouring specialties offers distinct advantages. 'Joints are the window to the immune system', for instance, and attention to joint pain can improve the early recognition of relapses. For the patient, a multidisciplinary service causes less duplication and mixed messages. The overall service also benefits from a single regional disease register facilitating quality improvement; and clinicians benefit from up-skilling by learning alongside colleagues with experience in other fields. Dr Basu also summarised recent clinical research into immunosuppression regimes in ANCA vasculitis and lupus. A variety of therapeutic options exist but tellingly he highlighted our inability to stratify patients into targeted regimes and predict when managed drug withdrawal might be successful.

Professor Christopher Dewton (Royal Free Hospital and UCL) picked up the theme of stratification in the treatment of systemic sclerosis, another heterogeneous multisystem condition. Screening for organ complications is the cornerstone of management. Different organ complications are associated with different baseline autoantibody profiles (centromere with pulmonary hypertension, topoisomerase-I (scl-70) with lung fibrosis, RNA polymerase-III with scleroderma renal crisis), which could help risk stratify patients for therapy. While

renal crises are readily treatable with ACE inhibitors, the treatment of other complications remains a challenge. A difficulty with pulmonary arterial hypertension is delayed diagnosis and Professor Dewton introduced the 'DETECT' two step bedside risk calculator, which has the potential to improve early referral for right heart catheterisation.¹ In addition, he highlighted patients with progressive lung fibrosis who are among those with the worst prognosis. Cyclophosphamide, mycophenolate mofetil and rituximab are the main treatment options, with a possible selective option of autologous stem cell transplantation as rescue therapy.

Professor David Reid (University of Aberdeen) discussed the management of osteoporosis and renal disease. Whereas the management in chronic kidney disease (CKD) stages 1–3 can be guided by standard risk calculators incorporating bone density and other risk factors, the decision-making in advanced CKD, transplant and chronic dialysis patients is more complex. Bone quality in advanced CKD is frequently poor. Renal bone disease includes a spectrum from high bone turnover to adynamic bone disease, vascular calcification is also common, and transplant patients suffer additional bone loss from glucocorticoids. Bisphosphonates, denosumab, and the newer anabolic agent teriparatide may all have roles, but evidence on which to make firm statements in advanced CKD remains lacking.²

RENAL AND DERMATOLOGY

Dr Richard Weller (Edinburgh Royal Infirmary) introduced his research by proposing another renal relevance for skin and the sun (other than skin cancers in transplant patients) – as a regulator of blood pressure. Increased latitude and the winter season relate inversely to blood pressure and cardiovascular death through a mechanism seemingly independent of vitamin D. One explanation is that the

skin modulates nitric oxide bioavailability in response to UVA irradiation leading to systemic arterial vasodilatation.³

The keynote lecture was from Professor Markus Ketteler (Klinikum Coburg, Germany) on calciphylaxis, or 'calcific uremic arteriolopathy'. This is a painful skin condition with high mortality that typically affects dialysis patients. It involves the calcification of small cutaneous arterioles and nerve sheaths, evolving into necrotic ulcers. The epidemiology is not well understood and Professor Ketteler introduced findings from the German Calciphylaxis Registry. The links between warfarin use, vitamin K2 deficiency and vascular calcification were particularly notable, but heterogeneity of the condition was also apparent, and this highlights the need for more collaborative registry data collection.⁴

RENAL AND HEPATOLOGY

Professor Julia Wendon (Kings College London) provided an update of the mechanisms and classification of hepatorenal syndrome (HRS), describing HRS type 1 as a subset of acute kidney injury,⁵ and HRS type 2 as a subset of CKD. Renal impairment can go unrecognised in liver disease due to low creatinine from reduced muscle and liver creatine production. She pointed to the prognostic importance of the cause of renal impairment when assessing the potential for recovery and a role of selective abdominal paracentesis to improve renal perfusion pressure. Finally, she illustrated how prognostic scoring tools may perform well with overall groups of patients but are much more difficult to use in clinical decision making for the individual patient in need of intensive care.

Dr Stephen Barclay (Glasgow Royal Infirmary) updated us on the management of hepatitis C. Sixteen percent of chronically infected patients develop cirrhosis by 20 years and they also have double the risk of developing end-stage kidney disease. Fibroscan is the standard method of assessing severity, but an AST:ALT >1 in the absence of alcohol is also suggestive of fibrotic liver disease. New antivirals have dramatically increased the cure rates and treatment should be considered both in dialysis and renal transplant patients.

NEPHROLOGY AND PSYCHIATRY

An overview of lithium nephrotoxicity was provided by Dr Charlie Tomson (Freeman Hospital, Newcastle upon Tyne). Lithium is the first-line treatment for bipolar mood disorder. It frequently causes reversible nephrogenic diabetes insipidus, but with prolonged use renal damage can become progressive with microcysts visible on MRI. Key learning points were to not overlook a central cause in those with diabetes insipidus and the potential therapeutic use of amiloride. Of note, there is

clear randomised controlled trial evidence that lithium prevents suicide and self-harm in people with unipolar and bipolar mood disorders and therefore any discussions on withdrawing lithium to avoid renal progression require care.

Professor Michael Eddleston (National Poisons Information Service) discussed the role of nephrology in acute poisoning. Using a case of lithium as one of several examples, he discussed concepts of volume of distribution, drug clearance and the need to monitor for post-dialysis rebound toxicity.

The symposium closed with Dr Stephen Potts (Edinburgh Royal Infirmary) who discussed several cases pointing to the need for psychiatry input embedded within the renal team. In particular, he painted an unsettling illustration of 'dialysis as purgatory', and described how renal patients are 'different'. He explained the ambivalent dependence of dialysis patients on staff and treatments that are simultaneously both lifesaving and a cause of thrice weekly 'torture'. The need for access to support outside the dialysis unit is therefore clear if patients are to have adequate opportunity to vent their frustrations.

TAKE HOME MESSAGE

People with kidney disease are indeed 'different'. They are a vulnerable heterogeneous group with multimorbidity who often receive toxic therapies. This symposium demonstrated how a team approach involving other specialties is regularly essential, particularly as a strong evidence base is frequently lacking or difficult to apply to individual renal patients. Risk-stratification was a recurring theme either as a necessity or as an exciting hope for the future. Novel biomarkers and therapeutic agents may enable us to provide more tailored care in multisystem diseases, but the stratification of multimorbidity remains challenging and highlights our need for collaborative care.

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