RCPE Symposium – Nephrology in the 21st Century

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The Nephrology in the 21st Century symposium was held Thursday 25 April 2019 at the Royal College of Physicians of Edinburgh

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Introduction

This year's renal symposium provided an overview of the current highlights in nephrology with a diverse series of talks taking the audience from the current 'hot topics' of nephrology through to the physicians and surgeons' views on live donor transplantation, lupus nephritis and finally an update on acute kidney injury.

Session 1: Hashtags and hot topics

The opening talk explored the role of social media in renal medicine education. Dr Paul Phelan (Royal Infirmary of Edinburgh) discussed his own journey through his early initial engagement with twitter onto being contributor, author and editor of some of Nephrology's most used social media forums. Some of the advantages to social media were explored, including the ability for the clinician to keep up to date with recent publications and trends within nephrology, as well as experiencing ground-breaking presentations and highlights from conferences from the other side of the world.

Within an era when the NHS if facing unprecedented financial pressures and an aim to deliver 'Realistic Medicine', Dr Clara Day (Queen Elizabeth Hospital, Birmingham) explored the concept of the delivery of value healthcare. Through an explanation of Sir Gray's triple value paradigm and Dr Day's own five value facts a guide to how to deliver value healthcare both in terms of population value, subpopulation value and individual value was given.[1] What the dialysis patient terms as value healthcare may be very different from what we as clinician's value and, therefore, it is important that we tailor the delivery of healthcare to ensure the needs of all are met.

Dr Charles Tomson (Freeman Hospital, Newcastle) closed the first session with an update on the latest topics in chronic kidney disease. Prediction tools are now available to help predict the timing and occurrence of clinical outcomes in patients with decreased glomerular filtration rate, which help in the identification of which patients do and do not need follow up.[2] With diabetic nephropathy remaining the leading cause of end-stage renal failure worldwide, the recent publication of Credence has excited the nephrology world with evidence that canagliflozin (SGLT2) reduces the risk of kidney failure and cardiovascular events in patients with type 2 diabetes and kidney disease.[3]

Session 2: Transplantation

Dr Aisling Courtney (Belfast City Hospital) presented the John Matheson Shaw Lecture entitled 'Live donation: gold standard or last resort? – the physician's view'. Dr Courtney presented evidence of how live donor transplantation is the gold standard renal replacement therapy option available for patients with end-stage renal disease. Belfast has become recognised worldwide as leading in the delivery of live donor transplantation with a live donor rate of 40 per million population.[4] Dr Courtney's team, through redesign of the service, with a focus on the ethos that 'the most important thing a nephrologist can do for his/her patient is to look after their donor', have been able to overcome the obstacles to donation that has resulted in consistently high rates of live donor transplantation for the last 9 years. The financial gains of transplantation are remarkable with a saving of £30,000 per year per patient after the first year post transplantation. Transplantation provides a better quality and quantity of life to our patients; live donor transplantation recipients have a 91% 10-year survival rate vs 76% for those receiving a donation after brain death transplant.[4]

The surgeon's view on the ethics of live donation was given by Professor Lorna Marsden (Royal Infirmary of Edinburgh). An eloquent description of the tense atmosphere within the live donor theatre was painted that highlighted the high stakes

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nature of this operation. Although the evidence has shown a very low mortality rate of 3.1 per 10,000 donors at the time of nephrectomy, with good long-term survival rates, the surgeon must remain very mindful that for the donor this is still a risk.[5]

Session 3: Lupus nephritis

Professor David Jayne (University of Cambridge and Addenbrooke's Hospital) and Professor Stewart Fleming (University of Dundee) delivered an interactive session with difficult cases of lupus nephritis. An overview of the recent changes to the International Society of Nephrology (ISN)/Renal Pathology Society (RPS) classification, highlighting the move away from subdivision between global and segmental changes with pathologists now being encouraged to report activity chronicity scoring on all biopsies, was given by Professor Fleming.[6]

It was acknowledged that in general nephrologists feel less confident about treating lupus nephritis in comparison to other renal conditions. Through presentation of a range of cases a set of clinically useful hints and tips were delivered. When facing sepsis in the immunosuppressed lupus patient it is important to consider reducing high-dose steroids; if choosing between mycophenolate mofetil and cyclophosphamide always consider that the safety profile in terms of infection is no different; rituximab is relatively safe in acute infection owing to the delayed onset of action. Repeated biopsy is key in many cases of lupus nephritis to determine whether the patient is a partial or complete responder in the presence of persistent proteinuria.

Session 4: Acute kidney injury (AKI)

Our knowledge of AKI is ever expanding in this research-rich environment. Professor Nick Selby (University of Nottingham) explained the difficulty in determining the effectiveness of the complex AKI strategies employed across the NHS. Although there are a wide range of individual studies the evidence remains incomplete to guide which organisational level interventions reduce mortality and morbidity around AKI. There remain many unexplored areas for potential research in AKI. These include understanding the full association and mechanism of the transition from AKI to chronic kidney disease, the role of dynamic imaging in assessing and stratifying AKI, and the discovery and implementation of a clinically relevant and available biomarker.

AKI e-alerts have become established practice in most areas across the UK. Dr Jonathan Murray (James Cook University Hospital, Middlesbrough) explained the wide variability in the design and delivery across the UK. Studies looking at individual health board practice have shown benefit in terms of patient-centred outcomes; however, no study to date has identified the 'sweet spot' between work flow disruption and patient benefit. We face ongoing challenges around the primary–secondary care interface in relation to AKI, therefore, we need to focus on ways of improving communication with primary care to ensure appropriate discharge care is provided without unnecessarily burdening our GP colleagues with additional work.

The final talk of the day was given by Dr Kate Wiles (St Thomas' Hospital, London). Dr Wiles, through a series of cases, explored the difficulties faced by the nephrologist in assessing the pregnant female. There is no recognised baseline creatinine in pregnancy making AKI diagnosis challenging. It is recognised that differentiating pre-eclampsia from other glomerular pathologies can be challenging, and for most nephrologists the referral from the labour suite remains one of slight anxiety. Through reviewing several cases the complexity of these situation was highlighted along with the need for close working between obstetrics and nephrology.

Take home messages

This symposium highlighted how nephrology offers a diverse and exciting career. My personal take home messages are that social media allows us to keep up to date with the latest advancements in knowledge, as well as allowing us to engage with the world's leading experts. I was inspired by Dr Courtney's work in transforming a service to provide high rates of live donor transplantation. As we look to the future of nephrology there are still areas we do not fully understand, the use of multitarget therapy for lupus nephritis, the role of dynamic imaging in AKI and how we continue to strive to provide good value care to our patients.

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