Y. REDDY

NEPHROLOGY

**ELECTIVE REPORT**

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**Elective subject:** Nephrology

**Elective location:** University of California in San Diego, USA

**Elective dates:** April 22-May 24, 2013

**Supervisor's name and contact details:** Dr Scott R Mullaney, smullaney@ucsd.edu

**Objectives set by school:**

1. What are the prevalent nephrology conditions in San Diego? How do they differ from the UK?
2. How are the services organised and delivered? How does it differ from the UK?

**Objectives set by the student:**

1. Talk about an interesting case that you helped manage.
2. How did this elective affect your professional goals?

Doing an elective in Nephrology at UCSD was an incredible experience for me. I was exposed to a vast number of acute and chronic kidney diseases and even had the opportunity to be in charge of a couple of patients and present them during ward rounds. Keeping up to date with latest lab results, investigations, procedures and management plans ensured that I had a better understanding of the patient's condition as a whole, even from the perspective of other clinical teams treating the patient.

In terms of chronic kidney disease, the three main underlying causes that seemed to be prevalent were diabetes, hypertension and increasing age. The vast number of Hispanic immigrants from nearby Mexico and their dietary habits seemed to be one of the main contributing factors. This is largely the same in the UK as well. In addition to this, the rise in obesity in both countries may also be a causative feature in the overall prognosis in patients with chronic kidney disease. I also had the opportunity to meet patients with SLE, calciphylaxis, glomerulonephritis, haemolytic uraemic syndrome, polycystic kidney disease, large kidney tumours, volume overloaded and hyperkalemic patients.

Patients with acute kidney injury that I encountered were mainly those who suffered from recent physical trauma of some sort. These included burn patients, patients with injuries and so on. Some of them were also suspected to be caused from nephrotoxic drug usage including recent use of certain antibiotics. Some of these patients required continuous renal replacement therapy while some did not. It mainly depended on the variations in their GFR and CK levels and also their vitals.

In general, I felt that the etiology of most patients with kidney disease in San Diego was the same as in the UK.

The main difference in the management of kidney disease in the UK and the US was that haemodialysis seemed to be preferred in the US. In the UK, I learnt from my renal placement at

Royal London Hospital that peritoneal dialysis was the preferred choice of treatment not only due to reduced expenses but also because it allows the patients to be mobile and carry on with most of their daily activities without restrictive timetables. I asked one of my attending in San Diego about this and she said that this was also the case in the national based health care system in Canada. For some reason, in the US, patients themselves were better informed of haemodialysis as compared to peritoneal dialysis and seemed to prefer it to peritoneal dialysis as a treatment choice (1). Based on the 2009 USRDS report, 94 and 6 percent began hemodialysis and peritoneal dialysis in the United States, respectively (2). It was noted in a study that patients who receive peritoneal dialysis tend to have fewer co-morbidities when compared to those who receive hemodialysis (3). Due to comorbidities it is difficult to accurately determine outcomes between the different types of renal replacement therapies. However, a study involving 35,265 Canadian dialysis patients demonstrated better survival associated with peritoneal dialysis for the first 18 months, and with hemodialysis after 36 months (4).

At UCSD, a different attending managed the inpatients list every week. In contrast to the UK, however, the attending on call took over ward rounds every day. The main medical team consisted of a resident, a fellow and a medical student. The student would be in charge of about 4 to 5 patients. The resident would get about ten patients to look after and the fellow was in charge of the rest. The fellow and the attending on call wrote in the patients notes every day. This was followed up by the patient's primary Internal Medicine team and any other team that the patient was under.

The type of insurance that the patient was under is always asked. I saw a patient with Wegener's granulomatosis who had to stop her medications because her insurance had expired. Fortunately for her, she was able to get another insurance after a couple months and was able to restart her medication. In contrast to this in the UK, I found that it is the initial diagnosis which is difficult for patients as getting in contact with a specialist to begin with is the hard part. Once they are under specialist care however, their conditions are managed according to the latest NICE guidelines without having to worry about finances or insurances.

I also found the outpatient system interesting in the USA. The team included the secretary, primary nurse, dietician, pharmacist, clinical fellow and the attending. This meant that the patient spent about an hour in the clinic being looked after by all these people. It was also interesting to see how the team made sure the patient didn't wait in the lobby for more than ten minutes after their scheduled appointment time. However, I also felt that for first time patients, bombarding them with information about diet, medications, diagnosis etc may be overwhelming for some and this was apparent in some of the patients I saw. In contrast to this, in the UK, I have often seen patients waiting for more than an hour in the outpatients department before being seen by the doctor.

One of the most memorable patients that I saw was a middle aged Hispanic lady who came into hospital for an elective total thyroidectomy for papillary thyroid carcinoma. She also had chronic kidney disease needing hemodialysis against a background of long standing type 2 diabetes. I remember when she was admitted and ready to go for surgery. The next morning we saw her after her surgery when she was in a bad situation. One of the anesthetic drugs she received caused her severe angioedema. She needed an urgent tracheostomy to help her breathing. She was kept in ICU for a while until she became stable. After this, she was in hospital for about two weeks, still recovering from complications of her surgery. She was coughing up most things that she ate. She had to be on nasogastric tube for a while. She was vomiting most nights and got very little sleep. She was drowsy most of the day. After those few weeks, she gradually began to recover. It was very nice to see her not vomit or cough anymore and it was especially

heartwarming to see her eat her first meal of yogurt. In a couple of days, she was eating and drinking normally and did not require any additional airway management and was consequently discharged home.

I feel very fortunate for having been able to do an elective in nephrology. I realize now that nephrology is a very diverse field that involves patients under a vast number of disciplines from cardiovascular, endocrinology to even trauma and orthopedics. It was a good opportunity for me to get a general overview of patient care in the USA. I also got the opportunity to join my renal attending in her ward rounds at the apharesis unit. Here, again, I met a range of patients with neurological conditions such as multiple sclerosis to patients with familial hypercholesterolemia. This elective further solidified my ambitions for a career in internal medicine. Working under Dr Mehta, Dr Blantz, Dr Trzebinska and Dr Sanchez was very inspiring for me. Each time I finished a week of ward rounds with them, I was left feeling motivated to someday emulate their standards of patient care.


1. Gómez CG, Valido P, Celadilla O, et al. Validity of a standard information protocol provided to end-stage renal disease patients and its effect on treatment selection. Perit Dial Int. 1999;19(5):471.
2. United States Renal Data System. Excerpts from the USRDS 2009 annual data report: Atlas of end-stage renal disease in the United States. Am J Kidney Dis. 2010; 1(Suppl 1):S1.
3. Miskulin DC, Meyer KB, Athienites NV, et al. Comorbidity and other factors associated with modality selection in incident dialysis patients: the CHOICE Study. Choices for Healthy Outcomes in Caring for End-Stage Renal Disease. Am J Kidney Dis. 2002;39(2):324.
4. Yeates K, Zhu N, Vonesh E, et al. Hemodialysis and peritoneal dialysis are associated with similar outcomes for end-stage renal disease treatment in Canada. Nephrol Dial Transplant. 2012;27(9):3568.