RENAL MEDICINE AT ST BARTHOLOMEW'S HOSPITAL

Larry Baker and Bill Cattell

Nephrology was not recognised as a separate speciality in the United Kingdom until the late 1960s and early 1970s. Its emergence was fuelled by the advent of renal biopsy in life in the 1950s and, above all, by the emergence of the opportunity to treat end-stage renal failure by regular haemodialysis and renal transplantation in the late 1960s and early 1970s.

After the Second World War, physicians with a special interest in nephrology mainly worked in academic departments of medicine. So it began at Barts. Dr AG ("Spike") Spencer, who had worked in the Professorial Department of Medicine at University College Hospital under Professor (later Lord) Rosenheim, was appointed Reader in the Department of Medicine at Bart's under Dr (later Professor Sir Eric) Scowen. In 1959, Dr Spencer invited Dr WR ("Bill") Cattell to join him on the Medical Unit with the express purpose of creating a specialist renal service. In 1960, a Travenol twin-coil machine was bought and haemodialysis for patients with acute renal failure was begun in a small (one bed station) unit which was created – inconveniently – on the 5th floor of the King George V Block at Barts. Thus it was that Spencer and Cattell, faced with a patient with end-stage renal failure and the offer of a cadaver-donor kidney, arranged the first Barts renal transplant. In those days immunosuppression was with corticosteroid medication and whole body irradiation. When rejection set in, there was no capacity to maintain the patient on regular dialysis and she died. It would be a decade before transplantation at Barts got off the ground. In the interim, Barts patients were transplanted, where possible, elsewhere.

Possession of the Travenol machine allowed Barts to offer a service for management of patients with acute renal failure. The renal service did not really take off, however until it became possible to offer regular haemodialysis for end-stage renal failure. The development of techniques for obtaining repeated long-term access to the circulation and development of low-volume, low-resistance artificial kidneys made this a practical proposition.

In 1965, the Department of Health accepted that regular dialysis treatment should be provided by the National Health Service and that a limited number of centres should be funded to provide it. Barts was designated as one of the first wave of hospitals to set up a centre, in conjunction with the North East Thames Regional Hospital Board. At that time, there was no chance of Barts consultants agreeing to the creation of a large renal unit on the Barts site at Smithfield, as this would have involved a loss of beds by other consultant staff and there was concern about the provision of clinical facilities and patients for undergraduate teaching. The problem was solved by siting a haemodialysis unit at St Leonard's Hospital, a fairly run-down ex-London County Council Hospital some two miles from Barts, where there was plenty of space to create a renal unit with an appropriate number of back-up beds. There may have been an element of snobbery involved in the decision to site the unit at St Leonard's. At the time, it was not unknown for physicians with an interest in renal disease to regard haemodialysis as a somewhat infra-dig plumbing exercise which could not be considered as “proper medicine.” It is a curious fact that initiation of haemodialysis treatment in some centres depended upon the foresight and enthusiasm of consultant surgeons (usually urologists) rather than physicians.

The advent of regular haemodialysis was the driving force which enabled a recognised Department of Renal Medicine to be accepted at Barts, eventually leading to recognised Regional Specialty status for the Barts/Leonard’s service. With that recognition came funding for a Senior Registrar in Nephrology and later two Senior House Officers as well as for nursing staff specific to the dialysis programme who were recruited along with supporting technical staff. Thus, gradually, a new department emerged. The staffing structure expanded rapidly when the St Leonard’s unit was commissioned and became fully operational in the spring of 1968. A logical extension of this was the establishment of a specialist renal clinic at Barts both for the referral of potential candidates for dialysis and also for patients with any sort of kidney disease. In-patient facilities were available at St Leonard’s and to a more limited extent at Barts and staff rotated between the two sites. This was not an ideal arrangement, particularly as Cattell was a single-handed Consultant. In 1971, a second Consultant, Dr Laurence (Larry) Baker was appointed as Consultant/Senior Lecturer. The appointment was jointly between the Regional Board and Barts Medical College.

The doubling of the consultant establishment made possible a number of developments. These included the establishment of a monthly outreach renal clinic at Chelmsford (primarily advisory but also permitting the teaching of junior staff in the area) and the initiation of weekly meetings with histopathologist colleagues. There already existed a weekly joint radiology meeting between the urologists, nephrologists and radiologists. Excellent rapport existed between John Wickham (Senior Urologist), Ian Kelsey-Fry (Radiologist and later Dean of the Medical College), Cattell and Baker and this allowed the meeting to be a no-holds-barred one where people (including junior staff) were encouraged to say what they thought. Problematic X-rays or the X-rays of problematic patients were shown and discussed, teaching radiologists what questions the clinicians were posing and teaching the clinicians what imaging could offer. Everyone benefited. Subsequently, Baker, having experienced the excellent Hammersmith Hospital mid-week medical staff round, and at the urging of colleagues, initiated a mid-week lunchtime medical staff round at Barts which he chaired for some years. The advantage of this over the previous arrangements (a small Saturday morning discussion group) was that non-clinicians, medical students and doctors in training tended to attend, which was much less the case at the weekend. From 1976, general medical outpatient, medical emergency admission and in-patient care were added to the workload of the nephrologists as older general physicians retired. This provided broader experience for junior doctors in training in the department.

From the start of the renal service, a weekly renal unit meeting was established. All members of staff – doctors, nurses, dietitian, social worker, technicians and secretaries – were expected to attend. The meeting covered all aspects of the running of the department both in clinical care, administration and social or other problems being experienced by patients. Each was encouraged to contribute. These were valuable sessions, often uncovering problems or concerns of staff or patients which would otherwise not have come to light. From time to time, non-renal unit staff would attend the meeting. For example Dr. Trevor Silverstone, Consultant in Psychological Medicine, would attend to advise about the psychiatric problems of patients. In the process, he cleverly abreacted members of staff stressed, in particular, by the inability in the early days to accept patients for dialysis treatment owing to shortage of facilities who these days would be accepted for treatment without a second thought.

The afternoon general renal outpatient clinic at Barts expanded. After it finished, all doctors would sit down with a cup of tea and discuss every patient who had been seen. This could be time-consuming and was often not completed before 7 pm but did ensure consistent patterns and standards of care. It also had an important teaching role for junior staff. Ancillary staff such as dietitian and social worker were encouraged to attend. This was a novel approach at Barts, later copied by other units. One wonders, however, whether modern-day junior medical staff would or could take part in view of the (very understandable) wish to limit excessive hours of work for doctors in training and the rigidities of the European Working Time Directive.

As elsewhere, haemodialysis in the late 1960s and early 1970s faced two main problems: lack of capacity to deal with the number of potential patients who would benefit from treatment and lack of knowledge of or ability to cope with complications of end-stage renal failure such as anaemia and renal bone disease. As to the former, there was great reluctance to take on diabetic patients for treatment, older patients and those with co-morbidities which nowadays would be no bar to acceptance for dialysis. Determined attempts were made to establish patients on self-supervised home haemodialysis. This modality of treatment however, suits only a minority of patients. A satellite renal unit was set up in the early 1970s at a general practitioner Health Centre but this by no means met the need. Many patients were maintained on intermittent rigid catheter peritoneal dialysis before implanted catheter ambulatory peritoneal dialysis came on stream. The situation in London was bad but elsewhere it was even worse. In 1972, the late John Swales (subsequently Professor of Medicine in Leicester and then Senior Lecturer in Manchester) arranged with Baker, with whom he had worked at Hammersmith, the transfer to London of three patients who could not be accommodated on dialysis in Manchester and were prepared to move to London in order to survive. Two were young men and the third was a married woman in her early 30s with children. None had co-morbidities. All lived for decades but their acceptance filled the St Leonard's unit and no more Manchester patients could be accepted. Clearly, provision of treatment had to be increased.

The size of the problem and the rate at which facilities for end-stage renal failure would need to be increased was not generally understood by colleagues. On one occasion, for example, Cattell and Baker had to appear before the Barts Senior Physician of the day to be remonstrated with following a complaint by a ward sister at Barts on the ward which the nephrologists shared with a general medical colleague that she had had to cope with <u>two</u> patients on rigid-catheter peritoneal dialysis on the ward at the same time, posing an unacceptable workload for her nursing staff.

As regards complications, routine use of erythropoietin was many years away and most patients were anaemic although many appeared remarkably well despite this on the three ten hour sessions or two 14 hour sessions of haemodialysis per week they received using Kiil dialysers in those days. Understanding of renal bone disease was incomplete and routine parathyroid hormone estimation unavailable. Very kindly, Dr

Lyall Watson, Consultant Metabolic Physician at University College Hospital, came once a month in those days to evaluate dialysis patients with overt renal bone disease and abnormalities of calcium metabolism. In those more flexible times, no-one considered it unusual that a consultant from one teaching hospital should work informally one session per month at a completely different one without seeking managerial permission. One doubts if the same could happen today. As well as being helpful to patients, the educational aspects sparked a long-term research interest in mineral metabolism and renal bone disease. From the first, members of the renal team pursued active research interests but this account is confined to the history of provision of a clinical renal service.

A surgical service to provide vascular access for haemodialysis was essential. In general, consultant colleagues were supportive of the renal service but each had their corner to fight and empathy with the realities was at times in short supply. Under these circumstances, humour usually won the day. For example, in the early days, at a Barts Medical Council meeting, it was suggested that vascular access should be undertaken by the nephrologists themselves rather than adding to the work of the surgical departments. Alarmed, Baker protested: “we can not undertake this work – he (meaning Cattell who wore thick-rimmed spectacles) can’t see and I’m all thumbs.” A shout of laughter signified that this particular argument had been accepted. A debt of gratitude is owed to the late Professor Gerry Taylor, Head of the Professorial Surgical Unit, who, together with members of his team, provided this service for several years.

It seemed clear that the interests of Barts renal failure patients would best be served by initiation of a transplant programme on the Barts site. After prolonged discussion, it was agreed in March 1971 that this should take place in close cooperation with the London Hospital whence tissue typing services would be provided. Inevitably, the circular argument was advanced that as there was no significant experience of transplantation at Barts, transplantation should not be initiated there. However, a cadaveric transplant was carried out at Barts on December 26, 1971 without formal Department of Health approval. Fortunately, all went well with the first tranche of recipients and Department of Health approval was eventually granted in November 1972. To press ahead without formal approval did not seem a particularly bold act at the time. Writing in 2012, one wonders if those involved would, in the current era, face immediate suspension for acting as they did. The majority of transplants were undertaken by consultant urologist colleagues John Wickham, the late Bill Hendry and Hugh Whitfield who all, it is worth noting, took on this heavy additional work – much of it carried out in unsocial hours – without any additional sessions or payment (seemingly, it never occurred to anyone to ask).

Thus, all transplantation on Barts patients was carried out at Barts, the great advantage being that the patients were well known to those caring for them. Recovery of donor kidneys was shared between Professor Taylor’s team and the urologists. Tissue typing and selection of potential cadaver donor kidneys was done in conjunction with the London Hospital, where Professor H. Festenstein and his colleague Dr John Sachs were immensely helpful.

Heavily influenced by the example and excellent results of Professor Molly McGeown’s unit in Belfast, the decision was taken from the start to employ relatively low-dose prednisolone as well as azathioprine immunosuppression. Results in terms of patient and graft survival were excellent. In those days, great attention was paid to matching of donor and recipient tissue types and this, together with constraints upon surgical time for harvesting of donor kidneys and transplant surgery itself, meant that the transplant rate was slower than necessary to meet the need. A debt of gratitude is owed to Mick Bewick, famed transplant surgeon based south of the river Thames, who, in the early years, undertook transplants upon some fifty Barts patients outwith Barts which served, in part, to close the gap.

The advent of continuous ambulatory peritoneal dialysis (CAPD) also provided much-needed extra capacity for acceptance of patients for renal replacement therapy and by the early 1980s, a flourishing CAPD programme was in progress, later to be supplemented by overnight cycling PD.

In the mid-1980s a number of major developments took place. Professor Taylor retired and was replaced as Professor of Surgery by a transplant surgeon – the late Professor Richard Wood. Prior to this, pre- and post-operative management of patients had mainly been undertaken by the nephrologists unless a surgical complication presented itself. With the advent of Professor Wood, much greater input from the surgical team in post-operative care became the norm. Consultant transplant surgeon, Christopher Rudge joined the Barts team. Transplant capacity increased significantly (in all, some five hundred cadaveric and live-donor transplants were carried out at Barts before the merger with the Royal London Hospital). Cyclosporin and erythropoietin became available for treatment. Agreement was reached for the renal department beds, haemodialysis and CAPD programmes to vacate the St Leonard's site and to move to a large, custom-built unit on the ground floor of the King George V block at Barts. A third consultant nephrologist, the late Professor Anthony Raine, was appointed although, harking back to earlier times, establishment of the need for a third nephrologist was not granted lightly. A meeting was held to decide whether the post should be funded and at one stage it looked as though things were going badly. At this point, Cattell pleaded: "please give us a third consultant – I'm tired, I've been tired for fifteen years!" Another shout of laughter signified that all would be well.

Bill Cattell retired from the NHS in 1991, being replaced by Dr Charley Tomson (later to move to Bristol, and still later to become President of the UK Renal Association).

The 1990s were characterised by government plans to close the Barts Smithfield site (which has not eventuated in full) and to merge Barts and the Royal London Hospitals in a single Trust (which has). During this time, two large Barts satellite haemodialysis units were commissioned, one in Wanstead, the other at North Middlesex Hospital, with funds provided by the Barts Special Trustees, further expanding needed regular haemodialysis capacity.

Larry Baker retired from the NHS in 2001.

With the merger of the Barts and Royal London renal services on the refurbished Royal London, Whitechapel site, East London now has one of the largest (in patient numbers) renal units in the UK, providing a full range of services for patients with renal disease. From little acorns… LRIB/WRC