

## **BIRMINGHAM**

### **Memories of the early days of dialysis and transplantation**

**By Barry Hulme**

The Artificial Kidney unit (AKU) was established in a side ward adjacent to ward 15/16 on the first floor of the Birmingham General Hospital in the city centre. I understand that the Ministry of Health purchased 6 Kolff twin-coil kidney machines from Travenol Laboratories, USA for evaluation in 1961. The Department of Pathology and Experimental pathology had several MRC units under the direction of Prof. (later Sir) John Squire and one machine may have been located in Birmingham as a result of this association.

Prior to 1961, patients with acute renal failure in Birmingham were transferred to Leeds General Infirmary for dialysis by Dr. Frank Parsons.

The Consultant physician in charge of the AKU was Dr. Dennis Blaney with Mr. Paul Dawson-Edwards, Consultant Urologist and the first medical registrar was Dr. David Dukes, who subsequently became a consultant renal physician at Walgrave Hospital Coventry.

I was appointed as David Duke's successor in July 1963. At that time there were no instruction manuals, reference books or medical publications. I watched and helped David for one week and then I was on my own with a surgical registrar to help with the insertion of femoral vein catheters into the groin.

The Kolff machine was basically a 100 Litre stainless steel tub with a central open-topped can and a pump that circulated the dialysis solution around the twin-coil. The manufacturer provided details of the weights of the individual chemicals to be added to the 100 litres of water in the tank. Each chemical was weighed out and placed in a glass bottle in hospital pharmacy and then mixed in a plastic bucket using a wooden spoon when the machine was being prepared. The pH was adjusted with lactic acid and carbon dioxide was bubbled through the tank throughout dialysis. Each treatment for acute renal failure usually lasted 6 hours and the dialysis solution was changed every 2 hours.

Disposable artificial kidneys had a large "dead space" and the coils had to be primed with two units of blood. The patient and the extra corporeal system were anti coagulated with heparin. In appropriate cases, regional heparinisation was used.

Ward 15/16 at the General Hospital was an ENT ward and not ideal for the type of referred patient, as they required intensive care. In late 1963 the unit was transferred the Professorial Surgical Unit on in the west Wing of the Queen Elizabeth Hospital adjacent to the main University Campus in Edgbaston. The facilities were much better and a wide range of surgical expertise was readily at hand. As the success of haemodialysis spread through the Midlands, many more patients were referred for treatment on the single machine; we decided to treat two patients simultaneously on the upper and lower coils of the dialyser. The technique was described in the Lancet (Lancet, 1965, 1, 724).