METHOD FOR CORRECTION OF SEVERE ANAEMIA IN THE PRESENCE OF UNCONTROLLED HYPERTENSION IN CHRONIC RENAL FAILURE

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In patients with severe anaemia and hypertension associated with chronic renal failure, attempts to transfuse packed cells, however slowly given, may produce left ventricular failure. It may be possible to transfuse packed cells during haemodialysis, or to use packed cells for priming the coil (as suggested by Carmody, O'Dwyer and Walsh, 1964), but in some of these patients the blood pressure rises even higher during dialysis and it seems unwise to do this. It seems safe, however, to correct the anaemia slowly by a series of small exchange transfusions. During haemodialysis on the twin coil kidney, blood is withdrawn from the arterial tubing into a Fenwall bag (containing E.D.T.A. as anticoagulant), this being replaced by transfusion of an equivalent volume of packed cells through the priming side-arm (one Fenwall bag is approximately equivalent to two units of packed cells). The blood in the Fenwall bag is then packed, and is given as part of the replacement of blood withdrawn into a second Fenwall bag, the deficiency being made up with another unit of packed cells. This procedure can easily be repeated up to four times during a single haemodialysis. The limitation on the method is the length of time necessary to transport the Fenwall bags to the blood bank, have them packed and returned; and the availability of bank blood. At the end of the dialysis, the blood from the coil is harvested into Fenwall bags containing ACD and retained in the blood bank.

Fig. 1. Effect of repeated small exchange transfusions during haemodialysis.
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for the next dialysis (Hansson, Lindholm, Lindqvist, Low and Nilsson, 1964), being checked for sterility before use.

Example

J.P., aged 24, suffering from terminal renal failure due to chronic glomerulonephritis, had severe breathlessness, the blood pressure was 240/130, and he was very anaemic. Despite fluid depletion by peritoneal dialysis, restriction of sodium intake, and a variety of hypotensive drugs, the hypertension could not be controlled. Attempts to transfuse packed cells made the breathlessness worse and had to be abandoned.

During haemodialysis without exchange transfusion the blood pressure increased from 180/120 to 200/120–130.

The procedure described was used during eight successive dialyses using the twin coil kidney. The haemoglobin values before and after each haemodialysis are shown in Fig. 1. The number of exchange transfusions which could be performed was limited by the short supply of blood of the patient's group (O,Rh-negative).

The blood pressure did not rise further either during or after the exchange transfusions and there was no untoward effect.

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REFERENCES
