

# THE TREATMENT OF HEPATIC COMA\*

## EXPERIENCE WITH SEVEN CASES TREATED BY EXCHANGE TRANSFUSION

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The development of hepatic coma in acute yellow atrophy of the liver was discussed, and the poor prognosis despite all current therapy was emphasized.<sup>1,2</sup> The present trends in the treatment of this encephalopathy in acute hepatitis were reviewed, including the use of a protein-free diet, poorly absorbed antibiotics and large doses of corticosteroids. Recent reports on the use of haemodialysis were discussed and it was considered noteworthy that, despite the lowering of blood ammonia, such patients were not benefited clinically. This suggested that the toxic substances were probably protein-bound and this was further supported by isolated reports of temporary improvement with the use of cross-circulation between a patient and a human volunteer and also after the perfusion of a patient's blood through the isolated cooled pig's liver.<sup>3</sup>

It was postulated that, if these patients could be kept alive long enough, the tremendous regenerative powers of the liver might allow recovery to take place. Accordingly, over the past 3 years, 7 patients with hepatic coma from acute yellow atrophy were treated by exchange transfusion. Each patient had been unsuccessfully treated in the conventional manner, including large doses of corticosteroids for between 24 hours and 3 days before the exchange

transfusion. All the patients were in coma and desperately ill.

The method used was similar to that which had been successful in infants with haemolytic disease of the newborn. Approximately twice the patient's blood volume was exchanged. Freshly donated heparinized blood was administered under pressure on the venous side, while blood was removed from an artery simultaneously. The ages of the patients ranged from 18 months to 68 years. The level of consciousness improved in all the patients between 2 and 24 hours after exchange transfusion, the majority soon becoming fully conscious and well orientated. In two patients repeated exchange transfusions were necessary, and one adult required seven exchange transfusions. Of the 7 patients 5 recovered completely. Two patients recovered from the hepatic coma, but subsequently died of complications. One patient died 28 days after recovery from coma as a result of septicaemia present from the onset. The other died from renal failure and severe bronchospasm 4 days after the exchange transfusion. At autopsy both these patients had regeneration nodules in atrophic livers.

The results in these 7 patients seem to indicate that exchange transfusions might be a life-saving measure in acute yellow atrophy.

### REFERENCES

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2. Sherlock, S. (1963): *Diseases of the Liver and Biliary System*, 3rd ed. Oxford: Blackwell Scientific Publications.
3. Leading article (1965): *Brit. Med. J.*, **2**, 127.

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