BLOOD PRODUCT CONCENTRATES AND CHRONIC LIVER DISEASE

SIR,—We have previously shown[1] that there is a high incidence of chronic liver disease among patients receiving blood product concentrates even in the absence of any symptoms. Non-A, non-B hepatitis viruses have been implicated.[2] While the presence of chronic liver disease is now well established there are no data on the rate or likelihood of progression.

A 34-year-old male with von Willebrand's disease had acute non-B hepatitis 2 weeks after receiving factor VIII concentrate to cover a surgical procedure. Jaundice cleared within 2–3 weeks but symptoms of abdominal discomfort and malaise persisted for several months before resolving. Liver function tests remained consistently abnormal with serum transaminases ranging between 200 and 400 units (normal <40). 18 months after the original episode a percutaneous liver biopsy was done with desmopressin (DDAVP) to correct the factor VIII deficiency. This showed a very mild chronic aggressive hepatitis with features of non-A, non-B viral infection.[3] The patient was followed up for a further 2½ years during which he received no further replacement therapy and he remained free of symptoms. His liver function tests, however, showed no evidence of improvement. For this reason a further percutaneous liver biopsy was done, again using DDAVP to raise the factor VIII level. On this occasion there was very severe architectural disturbance with evolving cirrhosis; features of non-A, non-B infection were still present. The size of the liver biopsy samples together with the nature of the histological changes make us confident that the progression is unrelated to sampling error. The patient denied excessive alcohol consumption at any time in the past, and for the past 2 years admitted to no more than half a pint of beer a day.

This case shows several important and disturbing features. We have detected significant progression of liver disease over 2½ years in the absence of any symptoms. Clinical, serological, and histological evidence point to the disease being related to non-A, non-B hepatitis. As the patient has had no further blood products since the initial infusion which led to the hepatitis, we have good evidence that his progressive liver disease can be ascribed solely to a single infusion.

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GAG REFLEX IN ASSESSING LEVEL OF CONSCIOUSNESS

SIR,—In toxicology reference is often made to the "gag" or "laryngeal" reflex as a method of assessing depth of coma, possible contraindication to induced emesis, or the necessity of tracheal intubation for airway protection.[4-6] We have looked for this reflex in obtunded patients and in medical staff controls to assess its correlation with clinical condition.

Thirty-eight patients were examined by one of us (K. K.) shortly after presentation at the emergency room of Denver General Hospital. The patients' mental status ranged from combative to deeply comatose. No patient was in shock. A standard tongue blade was rubbed vigorously against the posterior oropharynx. A typical positive response consisted of withdrawal and retching motions of the tongue and throat, often with facial flushing and tears. A negative response was considered to be the absence of the above findings despite vigorous attempts to elicit the gag reflex at least twice. Subsequently, eighteen emergency room staff members were evaluated in the same manner.

Three patients lacked a gag reflex: one was awake and alert, one was responsive only to deep pain, and one was comatose, intubated, and had radiographic evidence of aspiration pneumonitis. Of the thirty-five patients with a positive gag reflex, twelve were significantly obtunded: three had aspiration pneumonia and six had been intubated by paramedics before admission. Four emergency room staff members had no gag reflex despite vigorous attempts to elicit one. Serial gag reflex tests were not done and the significance of losing a gag reflex that had been present previously was not explored. The patients were examined solely at the time of presentation to the emergency room, when most decisions are made about the need for intubation, gastric lavage, or induction of emesis.

The emergency physician must frequently make immediate decisions about airway support and gastric emptying when caring for poisoned patients. It has been suggested that patients with absent gag reflexes should not be given ipecacuanha and that the gag reflex is useful in determining the need for airway protection. Our data suggest that the gag reflex is frequently misleading in the assessment of degree of obtundation and should not be relied upon as an isolated diagnostic tool.

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RESIDUAL ADRENOCORTICAL FUNCTION AFTER BILATERAL ADRENALECTOMY FOR CUSHING'S DISEASE

SIR,—Dr Drury and Professor Besser (Jan. 2, p. 57) raise a number of interesting issues with regard to steroid maintenance after bilateral adrenalectomy, in their comments on our Nov. 28 paper.

We did not assume that the absence of immediate symptoms after steroid withdrawal under resting conditions was evidence of adequate adrenocortical secretion. In four cases biochemical data did relate to an assessment made only a few days after steroid withdrawal, but we stated in the text that five out of six patients tolerated periods without steroid replacement ranging from 5 months to over 5 years with no symptoms and signs of adrenocortical insufficiency. (The other case has not yet had such a prolonged trial.) In three cases, replacement eventually became necessary on clinical grounds after interstitial pituitary irradiation had been done because of recurrent Cushing's syndrome or Nelson's syndrome; the other two patients are still well off all steroid therapy. During the period without steroid therapy these patients were repeatedly assessed for the subtle symptoms of adrenocortical insufficiency so rightly mentioned by Drury and Besser as important clinical clues to the need for steroid replacement dosage to be reviewed.

We wholly agree with Drury and Besser that steroid replacement after bilateral adrenalectomy must be carefully tailored to the differing needs of the individual. However, they regard cortisol profiles as an essential adjunct to clinical assessment and seem to base their case for acting on the results of cortisol measurement over and above clinical assessment alone on three main points. Firstly, the fact that acute adrenal insufficiency may supervene at time of intercurrent illness in the steroid deficient patients, who may be completely symptom-free while in the stable resting state; secondly, that there is a close correlation of subtle symptoms of adrenocortical insufficiency with troughs in plasma cortisol levels; and, thirdly, that inadequate replacement may increase ACTH overproduction and precipitate macroscopic pituitary tumours. While we agree with the first two observations, we do not believe that in themselves they support the case for cortisol measurements in assessing replacement dosage. The subtle symptoms can be assessed by

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