ADDENDUM

Herbal medicines and veno-occlusive disease of the liver in India

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SINCE the submission of this paper, some further interesting observations have been made. The materials consumed by patient no. 6 were identified as indigenous herbal medicines known as 'bhasams' (Datta, Narang and Chhuttani, 1977), and had an arsenic content of 500 $\mu\text{g}/100\text{ g}$. Pyrrolizidine alkaloids were not found. The liver of patient no. 3 at post-mortem had an arsenic content of 64 $\mu\text{g}/100\text{ g}$ (normal 0–5 $\mu\text{g}/100\text{ g}$).

Two more cases of VOD were identified on liver biopsies and haemodynamic studies. No aetiological agent was obvious in the first case. The second patient was a young opium addict who, in addition to his hepatic disease, presented with hyperkeratosis of the palms and soles. He died within 3 months of illness and the diagnosis of VOD was confirmed at post-mortem. The arsenic content of the opium was 400 $\mu\text{g}/100\text{ g}$ and the arsenic intake over a 4-year period was estimated to be at least 4 g. The arsenic content of the hyperkeratotic scales was 6720 $\mu\text{g}/100\text{ g}$ (normal 0–5 $\mu\text{g}/100\text{ g}$). The urinary arsenic excretion varied between 45 to 398 $\mu\text{g}/24\text{ hr}$ (normal 0–40 μg). Most of the tissues at post-mortem contained high amounts of arsenic. Samples of bhasams (Datta *et al.*, 1977) and opium (Datta and Kaul, 1977) have been shown to contain high amounts of arsenic. The chronic arsenic intake may be another important and previously unrecognized aetiological agent in the causation of VOD in India.

References

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