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Letters to the Editor

High dose atropine in organophosphorus poisoning

Sir,

We read with interest the report by Afzaal and colleagues[1] of a case of severe organophosphorus (OP) insecticide poisoning. Their patient received 3369 mg atropine over 8 days and the authors state that a dose of atropine as large as this has not previously been given for OP poisoning. However, a small number of patients do require massive quantities, in particular those severely poisoned with highly lipid soluble compounds, such as fenthion.[2] Total doses as high as 3911 mg,[3] 11,422 mg[4] and 19,500 mg[5] have been given in severe cases previously reported.

The clinical details given by Afzaal *et al.* are too brief to judge the reasons for prolonged high-dose atropine therapy, but bronchorrhoea is likely to have been the main major indication. Even so, peripheral antimuscarinic activity of atropine may not be the only antidotal property of the drug in OP poisoning, and additional specific antidotal effects on the central nervous system have been observed both in animals[6] and in man.[7]

Afzaal *et al.* conclude their report by asking 'why such a high dose of atropine was needed?' The explanation is likely to be two-fold: (i) the patient was severely poisoned, and (ii) inadequate doses of pralidoxime were administered. Consideration of the mechanism(s) of OP toxicity leads us to believe that it is necessary to continue pralidoxime for as long as the OP compound or its active metabolite are present in the body. Thus, the use of pralidoxime for only a few hours or at most one or two days, as recommended in many texts, is unlikely to be effective in very severe cases such as that reported by Afzaal *et al.*

It is generally accepted that plasma pralidoxime concentrations of 4 mg/l are necessary to achieve a satisfactory therapeutic effect. This suggestion is based on experiments in anaesthetized cats given lethal doses of intravenous sarin;[8] plasma pralidoxime concentrations of 4 mg/l were required to counteract neuromuscular block, bradycardia, hypotension and respiratory failure. More recent studies support this conclusion,[9,10] but measurement of plasma pralidoxime concentrations is rarely available in clinical centres. To achieve plasma pralidoxime concentrations of 4 mg/l, we therefore recommend[11] that pralidoxime methanesulphonate (P_2S) or chloride should be administered in doses of 30 mg/kg body weight intravenously every 4 or 6 hours, respectively, until full recovery occurs. Thus, the average adult will require approximately 8-12 g of oxime daily (depending on the salt employed), for as long as the patient exhibits the feature of poisoning.

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The contents of this letter represent the authors' views alone and in no way commit the Department of Health.

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Common bile duct gallstones; anicteric presentation in the elderly - under-recognized but important

Sir,

Common bile duct (CBD) stones usually present with jaundice even in the elderly.[1] However, the absence of jaundice should not deter clinicians from considering a diagnosis of CBD stones. To highlight this we report three elderly women who presented with vague symptoms and abnormal liver function tests but without hyperbilirubinaemia. All three were found to have CBD stones and after their removal the symptoms and abnormal liver function resolved.

Case 1 - An 84 year old woman with a 2-month history of intermittent upper abdominal discomfort, anorexia and nausea. On examination she was agitated and confused. Full blood count and biochemical profile were normal except for a raised alkaline phosphatase (286 IU/l; normal 30-120). Abdominal ultrasound showed dilatation of the CBD. Endoscopic cholangiography (ERC) demonstrated a single large CBD stone which was removed after endoscopic sphincterotomy.

Case 2 - An 84 year old woman with recurrent episodes of abdominal pain accompanied by confusion. Biochemical profile was normal except for a raised alkaline phosphatase of 499 IU/l and aspartate aminotransferase of 52 IU/l (normal 0-40). Abdominal ultrasound showed