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LETTER TO THE EDITOR

PROLONGATION OF PENTOBARBITONE INDUCED ANAESTHESIA BY AZATHIOPRINE

Sir,

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A study was carried out on albino rabbits to find out the possible interaction between azathioprine (AZT), a widely used immunosuppressant and pentobarbitone which is commonly used for induction of anesthesia. 10 albino rabbits (average wt 1.5 kg) of either sex were used. 5 of them were pretreated with AZT (12.5 mg/kg/day orally through a feeding tube for 5 days) and the rest 5 served as control. All of them were given pentobarbitone (30 mg/kg as IV bolus in 6% solution). Appearance of corneal reflex, pain sensation and righting reflex were noted (Table I).

TABLE I : Time taken (in min, Mean ±SD) for the appearance of various parameters.

Rabbit	*Corneal reflex*	*Pain sensation*	*Righting reflex*
Control	21.6±2.073	89.2±2.280	120.0±3.162
AZT treated	36.6±3.714	124.0±3.162	208.6±9.813

($P < 0.001$ for all the three parameters)

The delay in appearance of all these parameters in AZT treated group was found to be statistically significant ($P<0.001$).

AZT causes significant interactions with many drugs (1). Marked prolongation of anaesthetic effect of pentobarbitone in AZT treated rabbits as reflected by these parameters may result either due to direct interaction between the two drugs or due to delayed pentobarbitone metabolism consequent to hepatocellular suppression caused by AZT. Hepatotoxicity of AZT is well documented (1–4). The features of which are centrilobular congestion, fatty change, hemosiderin deposition, liver cell necrosis, cholestasis, bile duct proliferation and portal infilterates of mononuclear cells and neutrophils. Before clinically detactable hepatic damage is produced AZT causes suppression of microsomal enzyme system (4) which is perhaps responsible for the prolonged pentobarbitone activity.

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