(1972) have shown, in acute experiments, that phenytoin enhances plasma phenobarbitone levels in rats. Morselli *et al.* (1971) showed that administration of phenytoin to five children who had been receiving phenobarbitone 'for at least 15 days' caused a 1·5 to 4-fold elevation of plasma phenobarbitone levels 'after several days of combined treatment'. The findings presented here show that a similar effect occurs during long-term combined phenobarbitone and phenytoin therapy. The biochemical mechanism underlying this effect remains to be clarified, as does its relation to seizure control. The findings would indicate the necessity of monitoring serum phenobarbitone, as well as phenytoin, levels in epileptic patients receiving combination anticonvulsant therapy.

I should like to thank Dr. J. Jancar, Consultant Psychiatrist, Stoke Park Hospital, for permission to study his patients.

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TEMPERATURE FALL AFTER ECT

Dear Sir,

Has anyone noticed a fall in temperature in those patients who have had ECT? I have found a fall in temperature in all of ten patients who have been receiving ECT for depression. The fall in temperature varied from a 2 °C–5 °C and lasts for about one to two hours. A fall begins within fifteen to thirty minutes of receiving ECT. The anaesthetic used was methohexitone sodium (Brietal) and the relaxant used was suxethonium bromide (Brevidil).

I am postulating that one of the temperature-regulating centres in the hypothalamus is interfered with by ECT—either as a direct action of the electrical current or indirectly through the fronto-hypothalamic pathways. It may be that the alteration of body temperature after ECT results from stimulation of the anterior centre rather than being part of the normal body homeostasis.

It is interesting to note that the hypothalamus is an important area for mood change in animals. This hypothesis would suggest that possible mood centres in the hypothalamus are influenced by ECT as well as the temperature regulation centres, and would thus account for the remarkable way in which ECT alters a depressed patient's affect for the better in such a short time.

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