The anti-nialamide effect of pantothenic acid and pyridoxine

SIR,—It has been suggested that monoamine oxidase inhibitors may produce a relative deficiency of pyridoxine (Gillespie, Terry & Sjoerdsma, 1959; Jones, 1961; Joseph & Berkman, 1965; Anon., 1965) and, bearing in mind the central role of coenzyme A in cerebral metabolism, we have examined the possibility of influencing the action of a monoamine oxidase inhibitor drug, nialamide, by the administration of pantothenic acid and pyridoxine.

Nialamide (20 mg/kg i.p.) reduces the sleeping time of mice if administered 24 hr before the intraperitoneal injection of 75 mg/kg of hexobarbitone sodium (Holtz, Balzer, Westermann & Wezler, 1957). Groups of mice were examined using this finding as a basis for the evaluation of the effect of pantothenic acid and pyridoxine. The sleeping time to hexobarbitone alone was established in 20 mice and then 20 mice were treated according to Holtz & others (1957), the sleeping times being measured as described by Holtz, Balzer & Westermann (1958). Another 10 mice, also injected with nialamide 24 hr previously, were given pantothenic acid (62·5 mg/kg) and pyridoxine (12·5 mg/kg) intramuscularly, 30 min before the hexobarbitone sodium. Two more groups of 17 mice were given nialamide and 24 hr later one group had pantothenic acid (125 mg/kg) and the other pyridoxine (25 mg/kg) 30 min before the barbiturate. Other groups were given pantothenic acid (125 mg/kg, 10 animals), or pyridoxine (25 mg/kg, 17 animals) alone or together (10 animals) at half these doses. A *t*-test was made on the groups.

Nialamide reduced the hexobarbitone-induced sleeping time by an average of 65% ($P < 0.0001$). Pantothenic acid and pyridoxine antagonized the effect of the nialamide, the sleeping time being now reduced only by 30%. The protective effect against nialamide was also statistically significant

Pantothenic acid alone with nialamide decreased sleeping time by 41%. This protective effect was significant too ($P < 0.01$); the protection given by pantothenic acid and pyridoxine together was higher than that given by pantothenic acid ($P < 0.03$).

Pyridoxine in the presence of nialamide decreased sleeping time by 51%, an effect that was not significant.

Pantothenic acid or pyridoxine, separately or together, in the absence of nialamide, had no statistically significant effect on hexobarbitone-induced sleeping time.

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