S51-1 The possibility of histamine H3 receptor antagonists as new antiepileptic drugs

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It is well known that histamine H_1 antagonists, diphenhydramine and chlorpheniramine caused an epileptogenic activity in animals and human beings. On the other hand, we have reported that histidine and metoprine caused an inhibition of amygdaloid kindled seizures. Histamine H_3 receptor is first discovered by Arrang et al. as a presynaptic autoreceptor regulating the release and synthesis of histamine from the central histaminergic neurons. In this symposium, we reported the effects of some H_3 receptor antagonists on amygdaloid kindled seizures as well as the possibility as new antiepileptic drugs. Thioperamide, AQ145, clobenpropit and iodophenpropit caused an inhibition of amygdaloid kindled seizures both in intraventricular and intraperitoneal injections. The effects of clobenpropit and iodophenpropit were potent than those of thioperamide and AQ145. The effect of clobenpropit was potentiated by GABAergic drugs and inhibited by GABA antagonists. In conclusion, clobenpropit and iodophenpropit seem to be the useful antiepileptic drugs especially in partial epilepsy and/or secondary generalized seizures when used in a clinical setting.