

Motor effects of electrical and cholinergic stimulation of the cat's dorsal hippocampus

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The effect of electrical stimulation of the dorsal hippocampus was studied in 17 adult cats with implanted electrodes as well as the effects of carbachol and dioxolane in a group of ten adult cats with a cannula and electrodes implanted in the above cited structure. Electrical stimulation induced a contralateral head-eye-body turning response in 3 cats (17.6%), only when it was associated with afterdischarge. On the other hand the cholinergic agonists evoked contralateral head-eye-body turning in nine out of ten cats in whom the injections were administered into the hippocampus. The fact that dioxolane, an exclusive muscarinic agonist, evoked this behavior and that atropine sulfate blocked this response, favours the postulation that turning is due to activation of muscarinic receptors inside the dorsal hippocampus. Comparison was done between the hippocampal group with a group similarly studied with electrodes implanted in the pulvinar-lateralis posterior nucleus complex (P-LP), and in