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Drugs

LOCAL ANESTHETICS The effects of four local anesthetics, procaine, lidocaine, tetracaine and dibucaine, on the soleus neuromuscular preparation of the cat *in vivo* were studied. All anesthetic agents, when injected intra-arterially or intravenously, depressed the posttetanic potentiation of the soleus muscle and abolished the neural repetitive afterdischarge of the motor nerve terminals. Lidocaine was 1.5, tetracaine 10, and dibucaine 15 times more potent than procaine in depressing posttetanic potentiation. Recovery of posttetanic potentiation was rapid following procaine and lidocaine, but it was prolonged after tetracaine and dibucaine. Since posttetanic potentiation and posttetanic repetitive activity are neural events and local anesthetics depressed them without depressing the transmission of single twitches, it was concluded that local anesthetics act by selective depression of the motor nerve terminal. The possibility of a postfunctional effect of local anesthetics is considered, but, according to the dose-response relationship, it occurs only after injection of large doses. (Usabiaga, J. E., and Standaert, F.: *The Effects of Local Anesthetics on Motor Nerve Terminals*, *J. Pharmacol. Exper. Therap.* 159: 353 (Feb.) 1968.)