

Effects of CDP-Choline on acetylcholine-induced relaxation of the perfused carotid vascular beds of the rat

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1. The effects of an infusion of cytidine-5'-diphosphocholine (CDP-choline) on the relaxation induced by exogenous acetylcholine (ACh) was studied in the isolated and perfused external (ECB) and internal (ICB) carotid vascular beds of the rat. Changes in perfusion pressure were recorded during a dose-response curve to ACh and after a 30 min perfusion with CDP-choline (1 mg/min). 2. ACh induced a dose-dependent relaxation in both vascular beds, indicating the presence of muscarinic receptors. The affinity of the receptors for ACh in the ICB was significantly lower than in the ECB (ED₅₀: 120 ± 21.4 ng and 69 ± 10.3 ng, respectively). 3. In the ICB the infusion of CDP-choline for 30 min significantly shifted the dose-response curve to ACh to the left, potentiating the relaxation. This effect was not seen in the ECB. 4. The infusion of hemicholinium (4 μM) for 30 min together with CDP-choline completely prevented the potentiation of exogenous ACh-induced relaxation in the ICB. 5. The result