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α_1- and α_2-Adrenoreceptor antagonists in streptozotocin- and vincristine-induced hyperalgesia

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Abstract:
The effect of α_1- and α_2-adrenoreceptor antagonists (prazosin and yohimbine, respectively) on streptozotocin (STZ)- and vincristine (VIN)-induced hyperalgesia in rats was studied. In two experimental models, yohimbine (1.0 mg/kg *ip*) completely abolished STZ- and VIN-induced hyperalgesia. This effect was markedly prolonged in diabetic rats. Prazosin (0.3 mg/kg *ip*) attenuated and delayed development of STZ-induced hyperalgesia. In VIN-elicited neuropathy, the administration of prazosin not only delayed hyperalgesia but also produced antinociception. After cessation of drug administration, a significant decrease in nociceptive threshold was observed. The obtained results seem to indicate that both α_1- and α_2-adrenoreceptors are engaged in diabetic (STZ) and toxic (VIN) neuropathy.

Key words:
adrenergic system, hyperalgesia, prazosin, rats, streptozotocin, vincristine, yohimbine