

Bulletin of experimental biology and medicine, 2012, vol.154, N1, pages 1-2

Peculiar effects of muscarinic M1, M2, and M3 receptor blockers on cardiac chronotropic function in neonatal rats.

Ziyatdinova N., Sergeeva A., Dementieva R., Zefirov T.
Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

The effects of muscarinic M(1), M(2), and M(3) cholinergic receptor blockade on the regulation of chronotropic function of the heart were studied in vivo in 7-day-old rat pups. Intravenous injection of M(2) receptor blocker gallamine produced no changes in cardiac chronotropy. In contrast, M(1) receptor blocker pirenzepine and M(3) receptor blocker 4DAMP provoked bradycardia. These data attest to the involvement of M(1) and especially M(3) cholinergic receptors in the regulation of cardiac chronotropy in rat pups, which confirms the view on pronounced species-specific and age-related peculiarities in the heart control mechanisms.

<http://dx.doi.org/10.1007/s10517-012-1859-5>
