



Antihypertensive Therapeutic Potential of Citronellal

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SUMMARY. Cardiovascular effects induced by citronellal in rats were investigated in this study. In L-NAME hypertensive rats, the oral acute administration of citronellal (200 mg/kg) was able to significantly reduce the blood pressure. In normotensive rats, citronellal (5-40 mg/kg, i.v.) induced hypotension, which was not affected by pre-treatment with atropine, hexamethonium, L-NAME or indomethacin, and bradycardia, which was abolished by atropine and hexamethonium, but not by L-NAME or indomethacin. ECG records revealed that citronellal induced sinoatrial block, which was abolished after atropine. In intact rings of rat mesenteric artery pre-contracted with phenylephrine (10 μ M), citronellal (10^{-6} to 10^{-1} M) was able to induce relaxations ($E_{max} = 106.3 \pm 9.4$ %) that were not affected by endothelium removal or after pre-contraction with KCl 80 mM. In conclusion, these results demonstrate that citronellal reduces blood pressure. Furthermore, citronellal induces endothelium-independent vasorelaxation in rat artery that appears to involve inhibition of Ca^{2+} influx.

KEY WORDS: Bradycardia, Citronellal, Hypotension, Vasorelaxant effect.

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