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论文

强心扩血管药羟苯氨酮对大鼠,猫和狗心脏血流动力学的影响

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关键词: 强心扩血管药 羟苯氨酮 心脏血流动力学

摘要:

为了解强心扩血管新药羟苯氨酮(oxyphenamone,9003)对在体心血管系统的效应,用多导生理仪与电磁流量计测定大鼠,猫与狗的心脏血流动力学参数。结果表明,静注羟苯氨酮引起血压与血管阻力中度下降,心输出量,心肌收缩力与收缩力变化速度,冠状动脉和股动脉血流量明显增加。羟苯氨酮对心率与左室压的影响呈现种系差别,它增加狗的左室收缩压与压力变化速度,降低左室舒张末期压力,小剂量羟苯氨酮(1或3mg·kg⁻¹)引起狗的心率轻度降低,剂量增到6mg·kg⁻¹,心率中度加快。羟苯氨酮不影响猫的心率与左室压。大鼠静注羟苯氨酮后引起心率,左室收缩压与压力变化速度降低,左室舒张末期压力无变化。羟苯氨酮对心脏血流动力学的影响有待用病理模型作进一步观察。

EFFECT OF OXYPHENAMONE, A NEW INODILATOR, ON CARDIAC HEMODYNAMICS IN NORMAL RAT, CAT AND DOG

LL Fan; LH Sun and J Li

Abstract:

For studying the cardiotonic and vasaodilating effect of oxyphenamone *in vivo*, cardiac hemodynamic variables of anesthetized normal rats, cats and dogs were determined with a polygraph and electromagnetic flowmeters. Intravenous injection of oxyphenamone $(0.5 \sim 10~\text{mg}\cdot\text{kg}^{-1})$ dose dependently decreased the mean arterial pressure and systemic vascular resistance moderately and increased cardiac output, myocardial contractile force and $\pm dT/dt_{\text{max}}$. The blood flow of coronary and femoral arteries increased markedly and their vascular resistance decreased but the blood flow and vascular resistance of cerebral artery did not change. Some species differences were observed in the effect of oxyphenamone on heart rate (HR) and left ventricular pressure (LVP). Oxyphenamone did not influence the HR and LVP in normal cats. It decreased the HR, left ventricular systolic pressure (LVSP) and $\pm dP/dt_{\text{max}}$, while did not affect the left ventricular end diastolic pressure (LVEDP) in rats. In contrast, administration of oxyphenamone to dogs increased LVSP and $\pm dP/dt_{\text{max}}$ markedly and diminished LVEDP slightly. Oxyphenamone decreased HR slightly at lower dosage (1 and 3 mg·kg⁻¹), but increased heart rate moderately at high dose (6 mg·kg⁻¹) in dogs. These indicate that oxyphenamone has cardiotonic and vasodilating effects *in vivo*. Whether the effects of oxyphenamone on cardiac hemodynamics would be useful for the treatment of heart failure should be evaluated further.

Keywords: Cardiotonic agents Vasodilator agents Inodilators Cardiac hemodynamics Oxyphenamone

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