

论著

杭白菊乙酸乙酯提取物的舒血管作用及相关机制

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摘要 目的: 研究杭白菊乙酸乙酯提取物(CME)的舒血管作用及机制。方法: 大鼠胸主动脉环张力测定法。结果: CME可以浓度依赖性地降低主动脉环由苯肾上腺素(PE)及高钾预收缩的血管张力, 其对内皮完整血管的作用显著大于去内皮血管($P < 0.05$)。L-N-硝基精氨酸甲酯(L-NAME)、亚甲蓝可以显著降低CME的舒血管作用($P < 0.01$); 将主动脉与CME共孵育后, 血管NOS活力呈现浓度依赖地增高($P < 0.01$); 吡啶美辛对CME的作用无显著影响; SKF-525A与L-NAME合用, 与单用L-NAME无显著差异。CME的舒血管作用不受普萘洛尔、四乙氨、氯化钡、4-氨基吡啶、5-羟基癸酸的影响; 但却可被格列苯脲显著削弱($P < 0.01$)。无钙环境下CME对PE引起的收缩无显著影响; 无钾环境下以及无钙环境下渐加钙, CME对PE引起的收缩有显著影响($P < 0.05$)。结论: CME具有显著的舒血管作用, 其机制既与NO介导的途径有关, 也与抑制电压依从性钙通道和受体操纵性钙通道以及激活ATP敏感钾通道有关。

关键词 [杭白菊](#); [主动脉](#); [松弛](#); [内皮,血管](#); [一氧化氮](#); [钙通道](#)

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Vasorelaxant effect and underlying mechanism of EtOAc extract from Chrysanthemum morifolium in rat thoracic aorta

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Abstract

AIM: To investigate the vasorelaxant effect and mechanism of EtOAc extract from Chrysanthemum morifolium Ramat (CME). METHODS: The effects of CME on the contraction of rat thoracic aorta were examined. RESULTS: CME caused concentration-dependent relaxation of aorta rings precontracted with phenylephrine and K⁺. The effect in endothelium-intact aorta was more effective than that in endothelium-deduced aorta. NG-nitro-L-arginine methylester, methylene blue and glibenclamide attenuated the effect of CME significantly. However, indomethacin, propranolol, tetraethylammonium, BaCl₂, 4-aminopyridine and 5-hydroxydecanoate did not affect CME effect. The effect of SKF-525A combined with L-NAME had no obvious difference with that of L-NAME on CME-induced relaxation. NOS activity in aorta was increased markedly by CME in vitro. CME did not reduced the contraction elicited by PE in Ca²⁺-free medium, but reduced the contraction induced by PE in K⁺-free solution or Ca²⁺ free following input Ca²⁺. CONCLUSION: CME induces both endothelium-dependent and independent relaxation. NO and cGMP are likely involved in the endothelium-dependent relaxation, inhibition of voltage-dependent or receptor-operate Ca²⁺ channel and activation of ATP-sensitive K⁺ channel contribute in part to the endothelium-independent relaxation by CME.

Key words [Chrysanthemum morifolium Ramat](#) [Aorta](#) [Relaxation](#) [Endothelium](#) [vascular](#) [Nitric oxide](#) [Calcium channels](#)

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