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论著

异钩藤碱体外对家兔血小板聚集和胞浆游离钙离子浓度的影响

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摘要 目的 研究异钩藤碱对血小板内游离钙离子浓度（［Ca^{2+}］$_i$）的影响，以探讨其抗血小板聚集作用的可能机制。方法 比浊法测定家兔血小板聚集功能；双波长Fura-2荧光法测定血小板胞浆［Ca^{2+}］$_i$。结果 异钩藤碱0.33～1.30 mmol·L^{-1}体外给药对ADP和凝血酶引起的血小板聚集有浓度依赖性的抑制作用。存在细胞外钙时，异钩藤碱对基础状态血小板的［Ca^{2+}］$_i$和ADP及凝血酶诱导的［Ca^{2+}］$_i$水平有浓度依赖性的降低作用，而无细胞外钙存在时，则均无明显影响，表明其可抑制血小板的外钙内流，对内钙释放无明显抑制作用。结论 异钩藤碱可抑制血小板聚集，其作用机制可能与其抑制血小板胞浆［Ca^{2+}］$_i$升高有关。

关键词 异钩藤碱 血小板聚集 钙,细胞内 凝血酶

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Effect of isorhynchophylline on platelet aggregation and cytoplasmic free calcium level in rabbit platelets *in vitro*

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Abstract

AIM Observing the effect of isorhynchophylline on cytoplasmic free calcium level (［Ca^{2+}］$_i$) of platelets, to investigate the possible mechanism of its anti- platelet aggregation. **METHODS** Rabbit platelet aggregation and platelet ［Ca^{2+}］$_i$ were determined by Born method and double beam fluorescence spectrophotometric method, respectively. **RESULTS** Isorhynchophylline 0.33-1.30 mmol·L^{-1} administered *in vitro* visibly inhibited the rabbit's platelet aggregation induced by ADP (15 μmol·L^{-1}) and thrombin (3 kU·L^{-1}) in a concentration- dependent manner. In the presence of extracellular Ca^{2+}, isorhynchophylline inhibited the resting ［Ca^{2+}］$_i$ and the increased ［Ca^{2+}］$_i$ induced by ADP (15 μmol·L^{-1}) and thrombin (3 kU·L^{-1}) in a concentration-dependent manner, but had no effect on ［Ca^{2+}］$_i$ in the absence of extracellular Ca^{2+}, which indicated that isorhynchophylline inhibited extracellular Ca^{2+} influx in platelets, but had no inhibitory effect on intracellular Ca^{2+} mobilization. **CONCLUSION** Isorhynchophylline markedly inhibits the rabbit platelet aggregation, and the mechanism may be related to its depression on the rise of platelet ［Ca^{2+}］$_i$.

Key words isorhynchophylline platelet aggregation calcium cytosolic thrombin

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