

论著

中国黑眼镜蛇毒蛋白酶natrahagin抑制血小板聚集和动脉血栓形成的作用

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摘要 研究从中国黑眼镜蛇毒中纯化的中国黑眼镜蛇毒蛋白酶natrahagin对血小板聚集, 血浆纤维蛋白原水平和动脉血栓形成的影响. 采用比浊法测定兔血小板聚集率, 双缩脲法测定血浆纤维蛋白原浓度. 应用胰蛋白酶损伤血管内皮的方法制作家兔颈动脉血栓模型评价natrahagin抑制血栓形成的作用. 结果发现, 新西兰家兔 natrahagin (0.025~0.1 mg·kg⁻¹, iv) 剂量依赖性抑制二磷酸腺苷(10 μmol·L⁻¹)和胶原(100 mg·L⁻¹)诱导的血小板聚集, 显著降低血浆纤维蛋白原水平. 剂量为0.1 mg·kg⁻¹时, 血浆纤维蛋白原水平降低33.3%. 并能有效地抑制兔颈动脉血栓的形成, 效应呈剂量依赖性. 0.1 mg·kg⁻¹剂量组对血栓形成的抑制率达到45.4%. 研究提示, natrahagin抑制动脉血栓形成的作用与其抑制纤维蛋白原介导的血小板聚集和降低血浆纤维蛋白原水平的作用有关.

关键词 [眼镜蛇毒](#) [蛋白酶](#) [纤维蛋白原](#) [血小板聚集](#)

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Effect of natrahagin, a cobra venom proteinase on platelet aggregation and arterial thrombosis

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Abstract

To study the effect of natrahagin, a Chinese cobra venom proteinase purified from *Naja naja atra* venom on platelet aggregation, fibrinogen level and artery thrombosis. Platelet aggregation was measured turbidimetrically and plasma fibrinogen level was determined by biuret method. Rabbit common carotid artery thrombosis induced by injury of endothelium treated with 1.0% trypsin solution was used to evaluate the antithrombotic effect of natrahagin. The results showed that intravenous injection of natrahagin (0.025, 0.05 and 0.1 mg·kg⁻¹) dose-dependently inhibited rabbit platelet aggregation induced by 10 μmol·L⁻¹ of ADP or 100 mg·L⁻¹ of collagen. There was also a significant reduction in the plasma fibrinogen level, with the 33.3% reduction at the dose of 0.1 mg·kg⁻¹. The rabbit artery thrombosis was significantly inhibited by natrahagin in a dose-dependent manner, with inhibitory rate of 45.4% at the dose of 0.1 mg·kg⁻¹. These results suggested that the inhibitory effect of natrahagin on artery thrombosis is related to its effect on inhibition of fibrinogen-mediated platelet aggregation and reduction of plasma fibrinogen level.

Key words [venom](#) [proteinase](#) [fibrinogen](#) [platelet aggregation](#)

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