Conclusions A model that mimics plaque rupture and thrombosis was developed in rabbit femoral artery. This model is rapid, easily operated and site-controlled.

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INDUCTION OF ATHEROSCLEROTIC PLAQUE RUPTURE AND THROMBOSIS BY PHARMACOLOGICAL TRIGGERING IN A COLLAR-INDUCED ATHEROSCLEROSIS RABBIT MODEL

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Objectives To develop a rapid, easily operated and site-controlled atherothrombosis model in rabbits.

Methods Atherosclerotic plaques were induced by constrictive silastic collar placement and an atherogenic diet in the bilateral femoral arteries of rabbits. Fifty-six arteries were randomised into the triggering group (n=40) or the control group (n=16). Then, after pharmacological triggering by the administration of Russell's viper venom (0.15 mg/kg) and histamine (0.02 mg/kg), the rabbits were sacrificed, and the femoral arteries were removed. Histopathology and immunohistochemistry were performed to detect plaques and thrombi. The length of thrombi and narrowing of arteries were assessed by contrast-enhanced ultrasonography.

Results Human-like atherosclerotic plaques, mainly composed of macrophages, smooth muscle cells and collagens, were found in all arteries. The burdens and the compositions of plaques between the triggering group and the control group were not different ($p>0.05$). In the control group of 16 arteries, no thrombi or evidence of plaque rupture was detected, while in the triggering group, 23 out of 40 arteries developed intraplaque haemorrhage or thrombosis ($p<0.01$). The average length of thrombi was 1.87 mm, producing 68.52% narrowing in the arteries.