

prepared as potential drug candidates. The objective of this study was to evaluate a modification of the nail cuticle bleeding model in rabbits and to compare the effect of different dosages of FFR-FVIIa and FPR-FVIIa on bleeding in this model. In a blinded and randomized study sixty New Zealand White rabbits were divided into 10 groups receiving: buffer (1 ml/kg); FFR-FVIIa (160, 640 or 2560 $\mu\text{g}/\text{kg}$ respectively); FPR-FVIIa (160, 640 or 2560 $\mu\text{g}/\text{kg}$ respectively); and heparin 300, 600, or 900 anti-Xa units respectively). Test compound was administered 5 min prior to induction of nail cuticle bleeding on the third toe of both front feet in pentobarbital anaesthetized rabbits. During the 20 min observation period primary bleeding time and total rebleeding time (minutes) in 37°C water was noted. Total bleeding time (TBT) in minutes was defined as primary bleeding time plus total rebleeding time. A mean TBT was calculated for each animal based on the TBT observed for each nail (there was no significant difference in the TBT determined on the left or right foot). Median (range) TBT's for each group were as follow: Buffer: 7.1 min (4.5–9.5); FFR-160: 10.0 min (3.5–20.0); FFR-640: 7.0 min (4.3–19.0); FFR-2560: 9.5 min (4.5–20.0); FPR-160: 6.8 min (2.5–13.0); FPR-640: 7.0 min (5.0–16.5); FPR-2560: 14.3 min (4.5–20.0); heparin-300: 13.0 min (7.0–20.0); heparin-600: 17.3 min (10.5–20.0); heparin-900: 20.0 min (11.0–20.0). The mean TBT was statistically significantly prolonged for the highest heparin dose ($p = 0.005$) and for the group receiving 2560 $\mu\text{g}/\text{kg}$ FPR-FVIIa ($p = 0.036$) using Kruskal-Wallis paired comparisons with uncorrected p values. In conclusion, FVIIai appeared to be a safe antithrombotic drug candidate in this bleeding model in rabbits.

P65. Thrombolytic and antithrombotic effects of *Paeonia anomala* in low concentration

M. V. Kondachevskaya, L. A. Lyapina and T. Yu. Smolina

Laboratory of Protective Systems of Blood, Faculty of Biology, Moscow State University, Leninskye Gory, Moscow 119899, Russia

In vitro 8.3 mcg/ml of extract *Paeonia anomala* were able to increase the time recalcification from 130 s in control, to 30 min in experiment. In this condition *Paeonia* has its own non-enzymatic activity (tests on nonstabilized fibrin with ϵ -aminocaproic acid). *In vivo*, 10 min after intravenous (v. jugularis of white rats) injection of 0.5 ml 0.25% extract *Paeonia*, it was observed that anticoagulating and lytic activity (different from the lytic activity of plasmin) has increased 1.5 times as much and the plasminogen activity has increased twice as much as these

activities in control experiments. Moreover, the antithrombotic properties of this extract have appeared under the injection of high thrombin concentration (0.6 ml, 20 mg/ml). When extract *Paeonia* has been injected to rats before the thrombin, five animals from seven survived, whereas in control, only two from seven survived. Thus, we have discovered the thrombolytic and antithrombotic properties that have not been shown earlier.

P66. Control of haemostasis using recombinant factor VIIa (rFVIIa) in liver biopsy in a patient with a bleeding tendency due to a prothrombin inhibiting lupus anticoagulant

J. Ingersley,¹ R. Mølskov Bech³ and M. Holm²

University Hospital Aarhus, Coagulation Laboratory, Departments of ¹Clinical Immunology and ²Haematology, and ³Novo Nordisk A/S, Gentofte, Denmark

Lupus anticoagulants (LA) are associated with recurrent thrombosis, even if the autoantibody frequently binds to prothrombin as well as β_2 -glycoprotein-1. In a minority of cases, however, LA is accompanied by bleeding, and it has been demonstrated that these patients display a reduced prothrombin activity. Our case is a 76 year old female suffering from a lymphoma of low malignancy. Due to rapid tumour growth, malignancy transformation was suspected, and a liver biopsy was required. The patient had suffered a 12 month lasting bleeding tendency causing persistent oozing from smaller wounds for weeks and easy bruising. The bleeding time was prolonged, but no significant thrombocytopenia or signs of von Willebrand's disease was found. The APTT and PT were prolonged at 42 s and 12 s respectively, and mixing experiments demonstrated these being due to a LA affecting intrinsic and common pathways of coagulation. CIE displayed a complete lack of a precipitation arch for FII, and there were out-titerable reductions in coagulation factors VIII, IX, X, XI and II, outruling a single coagulation factor inhibitor. The ACA test was negative. In order to achieve haemostasis during liver biopsy, rFVIIa was administered using doses of 87 $\mu\text{g}/\text{kg}$ every 2 h for 10 h, every 3 h for 14 additional hours, and every 4 h until treatment was stopped after 48 h. rVIII dramatically changed the coagulometric picture with significant increases in activities of suppressed coagulation factors. Several biopsies were collected during two sessions, and there were no signs of bleeding. During this treatment, older haematomas of the skin resolved. This allows us to conclude that rFVIIa proved haemostatically active during liver biopsies in this patient with a proven record of a haemorrhagic tendency. Hence, rVIII