CONCENTRATED AND DILUTED HEPARIN-PROPHYLAXIS OF POSTOPERATIVE DEEP VEIN THROMBOSIS. S. Törn gren and K. Forsberg. Department of Surgery, South Hospital, Stockholm, Sweden.

Two calcium heparin solutions (Vitrum AB) have been evaluated in a controlled blind study with standard dosage of 5000 IE subcutaneously. The injections were given 2 hours before operation and 12-hourly for 6-8 days after operation. 175 patients undergoing abdominal surgery were included and randomized into 3 groups. 75% of the patients had malignant disease. 66 patients received heparin 5000 IE/ml (1 ml), 47 patients received heparin 25000 IE/ml (0.2 ml) and 62 patients received 5% glucose. Deep vein thrombosis (DVT) was diagnosed with the ^{125}I -fibrinogen method. Finally the heparin solutions with different viscosity were compared in an in vitro experiment. The nurses who injected the patients gave injections into weighed bottles with the usual technique.

DVT was diagnosed in 32% of the control patients, 15% of those on heparin 5000 IE/ml and 21% of those on heparin 25000 IE/ml. The difference between controls and heparin 5000 IE/ml is statistically significant ($p < 0.05$). In the in vitro experiment the mean dosage of heparin 5000 IE/ml was 5100 IE and the mean dosage of heparin 25000 IE/ml was 4415 IE. The dosage of heparin 25000 IE/ml was significantly less than 5000 IE ($p < 0.01$).

We conclude that the frequency of DVT is reduced with calcium heparin 5000 IE/ml (1 ml) 12-hourly for 6-8 days after operation. The concentrated heparin 25000 IE/ml (0.2 ml) does not significantly reduce postoperative DVT, which probably can be explained from our results in the in vitro study.

POSTER SYMPOSIUM XVII

Platelets: Isolation and Characterization of Glycoproteins

ISOLATION OF PLATELET SPECIFIC GLYCOPROTEIN ANTIGEN. G. Kosaki, S. Ohara and S. Imaoka. Second Department of Surgery, Osaka University Medical School, Osaka, Japan.

Hanna and Nelken in 1971 observed two specific antigens on human platelets. One is a glycoprotein, m.w. 110,000, with α -electrophoretic mobility and the other is protein, m.w. 30,000. We have isolated a platelet specific glycoprotein antigen m.w. 70,000, with β -globulin mobility. Differentially centrifuged and Sepharose 2B gel filtered platelets were suspended in deionized water, frozen, thawed and sonicated. One volume of 1.2 M perchloric acid (PCA) was added and mixture centrifuged and the supernatant dialysed against water and lyophilized. Antiserum was obtained by s.c. injection of this extract to a rabbit. After absorption with 0.6M PCA extract of human plasma and erythrocytes, this antiserum showed one precipitin line with platelet PCA extract, but no line with PCA extract of plasma, erythrocyte or lymphocyte on double diffusion. Furthermore, it formed no precipitin line with pus, liver, colon, stomach or kidney, but a weak line with lung and a strong line with spleen which fused with the platelet line. By gel filtration of crude platelet PCA extract on Sephadex G-200, antigenic activity was observed in the third fraction. On 7.5% polyacrylamide disc electrophoresis of this fraction, three bands stained with amidoblack and PAS. Main band was the middle one of m.w. 70,000 with β -globulin mobility. Positive immunofluorescent staining was found on platelets of human buffy coat smear, but not on erythrocytes or lymphocytes. The absorbed antiserum showed precipitin line with serum from whole blood and recalcified platelet rich plasma, but not with serum from recalcified platelet poor plasma. β -thromboglobulin is released from platelets during coagulation. We are investigating the immunological identity of β -thromboglobulin with our antigen. The result will be discussed.