Action and Clinical Use of Heparin

Level 5 – Terrace (Red and Green Sides)

Free Poster Session 11.30 – 12.45

Poster Board P5-070

0722 INHALATION OF HEPARIN AND ITS EFFECT ON BLOOD COAGULATION

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Heparin was administered by aerosol inhalation in principle according to Jaques et al. to 13 volunteers. The effects were investigated with activated partial thromboplastin time (APT-time), thrombin-time and antithrombin III (Odegaard. Heparin concentration was measured in plasma according to Teien et al. and platelets were counted. Four volunteers received 700-800 IU heparin and 9, 1300 IU/kg b.w. Blood samples were drawn before, after and once a day for 10 to 21 days. Controls inhaled normal saline and blood samples were drawn for 12 days. No untowards effects were noted either on the day of inhalation or during observation period.
On the day of inhalation heparin concentration in plasma increased in the heparin-group but not in the control group. A maintained level of heparin was measured up to 3 weeks afterwards in 9 of the 13 volunteers. The heparin concentrations increased from mean values of 0.014 IU/ml plasma to a maximal mean value of 0.040 IU/ml plasma in the high dose and 0.039 IU/ml plasma in the low dose group. During the observation period heparin mean level was about 0.020 to 0.030 IU/ml plasma in the heparin group. In the control troup there was no measurable heparin. The APT and thrombin times were prolonged during the day of inhalation in the high-dose but not in the low-dose group. Antithrombin III and ptc remained unchanged in both groups and no changes were noted in the control group.

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0723 HAEMORRHAGIC COMPLICATIONS OF HEPARIN THERAPY IN ELDERLY PEOPLE.

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The most important side effect of heparin therapy is bleeding. The reported incidence has varied widely and the relationship of bleeding to dose, route of administration, age, sex, underlying haemostatic defect and hypertension has been suggested. A review of one year's experience with subcutaneous heparin in 113 elderly patients is presented in this paper. They are divided into three groups : Group I without laboratory control, Group II - dosage of heparin being controlled with recalcification plasma test, and Group III - heparin requirement controlled by thrombo-elastography. Group I - 24 women (average age 82.1 years) receiving 5000 I.U. every 8 or 12 hours, mean duration of treatment 24 days ± 13.3 : one fatal retroperitoneal haemorrhage. Group II - 35 females, 10 males (average age 81.3 years), mean daily dose of heparin 13.250 I.U.(TID), duration of treatment 30.3 ± 24 days, 10 patients sustained bleeding complications. Group III - 38 females, 6 males (average age 81.6 years), average daily heparin requirement 12.250 I.U. (TID), mean duration of treatment 42.2 ± 55.5, 4 patients developed minor bleeding.

The relationship between age, sex, control of heparin dosage and existence of hypertension will be discussed in detail.