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PONGSAK DANDECHA: THE DIFFERENCE OF THE MAXIMAL LEVEL AND HALF-LIFE OF ANTI-Xa ACTIVITY AFTER INTRAVENOUS INJECTION OF FRAXIPARINE BETWEEN HEALTHY VOLUNTEERS AND CHRONIC HEMODIALYSIS PATIENTS IN CHULALONGKORN HOSPITAL AND THE APPROPRIATE DOSE IN THESE PATIENTS. THESIS ADVISOR : PROF.KRIANG TANGSANGA. THESIS COADVISOR : ASSO.PIYARAT TOSUKOWONG. 44 pp. ISBN 974-636-699-8.

Fraxiparine is a low-molecular weight heparin which has market in Thailand. It acts by binding with antithrombin III and accelerate antithrombin III' s effect. It has been used worldwide because of the easiness of use and need no laboratoty monitoring. Thai people has low risk of thromboembolism because of high fibrinolytic activity and antithrombin III. In chronic hemodialysis patients, antithrombin III is lower than in healthy people. It may be possible that Thais respond to Fraxiparine different from Western people.

This study is a comparative study; compare the maximal level and half-live of the anti-Xa activity between healthy volunteers and chronic hemodialysis patients after intravenous injection of Fraxiparine,and to find the appropriate dose in these patients. During hemodialysis, we monitor anti-Xa activity, blood clot in hemodialysis blood line and measure the bundle fiber volume of dialyzer. The statistics is considered to be significant if the p value is less than 0.05.

The result of study in 6 healthy volunteers and 6 chronic hemodialysis patients show that male to female ratio is 4:2 and 3:3 respectively. The mean age in healthy volunteers is 29.5 years and is 45 years in chronic hemodialysis patients. Plasma creatinine in healthy voluteers and in chronic hemodialysis patients is 0.9 and 11.6 mg/dl. respectively. After intravenous Fraxiparine 40 IU/kg.,healthy volunteers have the maximal level and half-live of anti-Xa activity equal 1.07±0.04 IU/ml and 2.8±0.38 hours respectively. In chronic hemodialysis patients, the maximal level and half-live of anti-Xa activity are 0.86±0.01 IU/ml and 3.1±0.46 hours respectively. It is different between the two groups ($p<0.05$). Hemodialysis does not affect the maximal level and half-live of anti-Xa activity. Fraxiparine in the dose 80 IU/kg at the beginning of hemodialysis does not lead to have clot in the hemodialysis system and does not decrese the fiber bundle volume. Dosage at 60 IU/kg cause to have clot minimally, but it make to lost the volume of dialyzer significantly ($p<0.05$).

In conclusion, intravenous injection of Fraxiparine in healthy volunteers has the maximal level of anti-Xa activity more than in chronic hemodialysis patients, but half-live of anti-Xa activity is comparable between the two groups. For hemodialysis purpose, the appropriate dose of Fraxiparine is 80 IU/kg.

ภาควิชา อายุรศาสตร์ ลายมือชื่อนิสิต .....

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