Friday, June 13 (14^{30}-16^{30}) - ROOM A

ORAL PRESENTATIONS XII

NEW CONCENTRATES

224. Schimpf K., Reis B.: Rehabilitation Hospital and Hemophilia Center, Heidelberg; Rehabilitation Foundation, Heidelberg, West Germany.

Comparison of recovery and half-life of a new factor VIII high-purity concentrate (FVIII C HS) with a factor VIII HS (Hemate P).

Replacement therapy with blood coagulation concentrates implies that, besides the needed blood coagulation factor, other undesirable proteins are transfused. The Behringwerke has meanwhile developed a factor VIII concentrate, 'FVIII C HS', which has a higher purity than the hitherto used concentrates including 'Hemate P'. The specific activity of 'FVIII C HS' is 100 IU/mg protein. Up to now, we have compared recovery and half-life of this new preparation with the widely used 'Hemate P' in a double-blind crossover study with 4 patients: 2 had severe and 2 moderately severe hemophilia A.
Concentrates were infused during non-bleeding periods at a minimum of weekly intervals. The dosage/kg body weight ranged, depending on the patients' body weight, from 21 to 37 U. Blood samples for factor VIII activity assays were taken at the following intervals: before transfusion and 30, 45 min, 1, 2, 4, 6, 8, 10, 24 and 48h after transfusion. The patients received different batches of 'Hemate P' and 'FVIII C HS'. The half-life of both concentrates did not greatly differ. The mean of T/2.2 according to the two-compartment model was 12.9h for 'FVIII C HS' and 13.7h for 'Hemate P'. The measured recovery of 'FVIII C HS' was with 102% (94-115%) of the estimated recovery, significantly higher than the recovery of 'Hemate P' with 60.5% (48-73%) of the estimated recovery. The response per infused U/kg body weight was 2.9% (2.75-3.22%) for 'FVIII C HS' and 1.56% (1.17-1.91%) for 'Hemate P', respectively. This may be explained through the following speculations: 1. the physiological distribution volume is less for 'FVIII C HS'; 2. part of the infused factor VIII in the case of 'Hemate P' (FVIII:vWF = 1:4) is, together with the infused von Willebrand factor (vWF), bound to platelets or other cells of the vascular system; this may be less in the case of 'FVIII C HS' (FVIII:vWF = 2:1).

122. Scharrer I., Vigh Z.: Center of Internal Medicine, University Hospital, Frankfurt/Main, West Germany.

Comparison between cryoprecipitate and a wet heat-treated factor VIII concentrate in the treatment of von Willebrand's disease.

The treatment of choice in von Willebrand's disease (vWD) is the therapy with cryoprecipitates. By *in vitro* investigations of multimeric structure (according to Ruggeri et al., 1981, and by another electroblotting technique) of cryoprecipitate and a wet heat-treated FVIII concentrate (wHT) we obtained the following results: cryoprecipitate corresponded to normal plasma and wHT to vWD-plasma type II. We compared *in vivo* the effects of the two preparations on bleeding time (BT), platelet retention, FVIII:C, vWF:Ag, RCoF, half-life of RCoF and multimeric structure in 7 patients with vWD type I (dose 40 U/kg) and in 7 patients with vWD type II (dose 20 U/kg). We found the following differences. BT: normalization in mean over 7.2h by cryoprecipitate and over 4h by wHT. Platelet retention: normalization in mean over 6.2h by cryoprecipitate and over 2.5h by wHT. FVIII:C, vWF:Ag and RCoF normalization by both preparations. Half-life (disappearance time) of RCoF with cryoprecipitate 10.4h, with wHT 6.4h. Multimeric analysis: nearly normalized by cryoprecipitate and significantly increased low and intermediate molecular weight multimers by wHT. No bleeding complications occurred during these transfusion studies either by cryoprecipitate or wHT.