Time
13.15 **0160** **ANTI-A CONTENT OF INTERMEDIATE-PURITY CONCENTRATES OF FACTOR VIII.**

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Haemolysis may be induced in haemophiliacs of blood group A if they receive very large doses of concentrates containing high levels of anti-A. The anti-A content of factor VIII concentrates made at PFL has been measured by an automated haemagglutination method. The standard was a pool of 500 sera of random blood groups, assigned a value of 100 units per ml. 23 batches of concentrate prepared from 5 l packs of FFP, each containing about 24 donations of random blood groups, contained 23.7 ± 4.1 (mean ± S.D.) units anti-A/iu factor VIII.

It was predicted that, if 5 l pools were replaced by single donations of FFP which were not mixed until thawing and collection of the cryoprecipitate, there would be less neutralisation of anti-A by group A donations and the anti-A level in the concentrate would be increased. Unexpectedly, the anti-A content of 9 batches prepared from single donations of random blood groups was 5.8 ± 1.5 units/iu factor VIII, significantly lower than for batches made from 5 l packs. It is postulated that free anti-A is less susceptible to cryoprecipitation than is anti-A complexed with A substance during pooling of group O and A plasmas at 20°. After re-solution of the cryoprecipitated complex, equilibrium may be re-established to give free anti-A.

13.30 **0161** FACTOR VIII-RELATED ACTIVITIES IN THERAPEUTIC CONCENTRATES

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Levels of Factor VIII clotting activity (VIII:C), VIII clotting antigen (VIII:CAg), VIII related antigen (VIII R:Ag) and ristocetin co-factor (RCF) have been compared in several batches of the various concentrates used therapeutically in the U.K. The mean ratio of VIII R:Ag to VIII:C ranged from 2 to 4, but a major problem in VIII R:Ag assays of concentrates against a plasma standard was non-parallelism of the dose-response curves. This reflects the abnormality of the antigen in the concentrates, as shown by its more rapid mobility on crossed immunoelectrophoresis. Ratios of VIII:CAg to VIII:C ranged from less than 1 to about 2; the higher ratios indicate denaturation of the clotting part of the molecule during purification. All concentrates had RCF levels at least equivalent to their clotting activity, but lower than their VIII R:Ag levels. At high dilutions, most concentrates gave an acceptable parallel line bioassay against a plasma standard, but as the concentration of ristocetin co-factor was increased, non-parallelism was observed, due to a failure of the plasma response to increase with increasing dose. In treatment of patients with haemophilia and von Willebrand's disease, it should be recognised that concentrates which are equivalent in VIII:C potency may nevertheless display a wide spectrum of other Factor VIII-related activities.

13.45 **0162** DDAVP FACTOR VIII CONCENTRATE AND ITS PROPERTIES IN VIVO AND IN VITRO

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DDAVP fraction I-0 was prepared from a plasma pool derived from 80 blood donors who had received DDAVP and tranexamic acid. A control fraction I-0 was prepared from a plasma pool from the same group of blood donors under identical conditions except for the drug treatment.
The DDAVP plasma pool as well as the DDAVP fraction I-0 contained 2-3 times as much VIII:C as the controls. VIIIR:Ag increased to a lesser extent. No difference in stability of VIII:C was seen.
In vivo studies showed that infusion of the DDAVP fraction I-0 to 3 patients with severe haemophilia A caused a 2-3 times higher increase in VIII:C than after infusion of the same volume of the control fraction I-0. No difference in disappearance rate of VIII:C was seen.
Both factor VIII concentrates normalised the defect in VWD.
It is concluded that administration of DDAVP to blood donors prior to collection of blood increases the content of VIII:C in the ensuing factor VIII concentrate and secondly that such stimulation has no demonstrable qualitative effect on the factor VIII obtained.