POTENCY DIFFERENCES IN F VIII CONCENTRATES ASSOCIATED WITH BLOOD GROUPS. M. Miller-Andersson T. Kirkwood, M.J. Seghatchian. AB Kabi, Stockholm, NIBSC, Hampstead, London, NLBTC Edgeware U.K.

Differences in plasma obtained from different blood groups are well etablished. For many years AHF Concentrate Kabi has been prepared from donations of single blood group. This fact allowed examination of the effect of blood groups on the F VIII yield in concentrates. 211 batches of these concentrates were studied, 103 group 0, 83 group A and 25 group B. Each batch was assayed twice against a large frozen normal plasma pool (-150°C) using an automated F VIII:c assay system. Statistical analysis of the results show that there is no significant difference between A and B batches and that the A and B contain 21 % on average more than the 0 batches. These results agree very well with the findings in some other studies. The implications of this are twofold: Firstly it can be seen that simply by selecting only A or B plasma for F VIII recovery a significant increase in F VIII in concentrates may be achieved. Secondly, the "normal plasma unit" and the use of normal plasma pools as reference standards heavily depend on the blood groups of the donors. This was clearly demonstrated by the chance use of a normal plasma pool containing 75 %. A group as compared to the usual use of 50 %. Quality control assays performed against this pool showed an alarming drop of 10-15 % F VIII content of the production batches. Therefore F VIII potency estimation given in terms of normal plasma units are of limited value without detailed specification of the donor blood groups.

COMPLICATIONS IN ONE STAGE POTENCY ESTIMATION OF FACTOR VIII DUE TO TRACES OF THROMBIN. M. Miller-Andersson, M.J. Seghatchian. AB Kabi, Stockholm, Sweden. North London Blood transfusion Centre, Edgeware, U.K.

Recent studies have revieled significant differences between potency estimations of F VIII using one stage or two stage assay technique. Especially in highly purified concentrates, two stage assays estimate considerably higher potencies. Because of the complicated nature of the two stage assay reagent it might seem advicably to use one stage for highly purified preparations. With this in mind a study has been performed evaluating the influence of thrombin activation of F VIII concentrates in one stage systems, which seem to be very susceptible to thrombin activation. The results of the study showed a dramatic effect of minute amounts of thrombin on the potency estimation of F VIII concentrates with low fibrinogen content. A concentrate containing 5 U F VIII/ml and 1.5 mg fibrinogen/ml was brought to a final thrombin concentration of 10^{-6} IU/ml. The activity increased and stayed at 25 U/ml for the first 6 h, went down to 10 U/ml after 24 h and reached the level of the reference material (5 U/ml) after 48 h. Thus the activation effect is remarcably stable and might cause false high results. $Al(OH)_3$ adsorption has been recommended to overcome activation problems in F VIII potency estimation. This process, however, adsorbes a lot of both F VIII:c and F VIII:R Ag from the test sample when the total protein content is low, thus introducing another source of error. As there is an increasing demand for highly purified F VIII concentrates for home therapy, it is urgent to indicate the need for a generally recommended assay procedure for these preparations.

IN VIVO MICROSCOPIC OBSERVATIONS OF VASOACTIVE DRUGS AND PLATELET AGGREGATION. Mary P. Wiedeman, Ronald F. Tuma, Harvey N. Mayrovitz, Temple University School of Medicine, Department of Physiology, Philadelphia, Pennsylvania, USA.

A survey of the literature concerning the effect of vasoactive drugs on platelet aggregation would support the generalization that vasoconstrictors enhance platelet aggregation while vasodilators inhibit the action. Some of the information comes from in vitro studies and some from in vivo studies. Using the bat wing as the experimental site, microscopic observation of the effect of intra-arterial injections of vasoconstrictor drugs (epinephrine and serotonin) and vasodilator drugs (dipyridamole and phenoxybenzamine) confirmed the concept. Platelet activity induced by laser beam after administration of vasoconstrictors showed an increased response while vasodilator drugs produced the converse. In addition, denervated vessels showed diminished activity in platelet aggregate formation. Experimental procedures and responses will be shown by cinemicrophotography.