IMPROVED FACTOR VIII YIELD BY INSTRUMENTED CRYO-PRECIPIRATE HARVESTING TECHNIQUE.

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The present cryo-precipitate manufacturing process has been modified to utilize mechanical and electro-mechanical aids. Up to four bags of plasma are placed in a rack of special design in which they are frozen and then thawed in a vertical position. Thawing takes place in a 4° C. water bath where vibration transmitted through the water causes an increase in precipitate density at the bottom of the bag. Supernatant plasma is then transferred to the satellite bag using an expressor upon which is mounted a photo detector operated shut-off mechanism. In this device a photo cell monitors plasma color as it enters the transfer tube activating a solenoid clamp on the tubing when cryo-precipitate reaches the transfer point at the top of the bag. The signal from this detector may also be used to automatically trigger a dielectric heat sealer. An increase in Factor VIII yield has been achieved averaging 14%.

PARTICULATE MATERIAL IN FACTOR VIII CONCENTRATES. M. Elaine Eyster and Martin E. Nau, Pennsylvania State University School of Medicine, Hershey, Pennsylvania, U. S. A.

Particulate material in Factor VIII concentrates might be associated with reactions such as dizziness, visual disturbances and dyspnea following infusions.

Factor VIII concentrates from three different manufacturers were reconstituted and passed through an Ultrapore blood transfusion filter. (Pall Corporation, Biomedical Products Division, Glen Cove, L. I.). The screen was removed, fixed in glutaraldehyde, dehydrated, critical point dried in CO₂, plated with gold paladium and examined in an AMR 900 scanning electron microscope. Photomicrographs at 200 to 2,000 x magnification revealed a large amount of non-cellular debris adherent to the screen which retained particles of greater than 40 μ. When this material which was partially soluble in citrate saline phosphate buffer pH 6.0 was eluted and tested by immunodiffusion using antisera to whole human sera, IgG and fibrinogen, two precipitin bands were apparent.

It is concluded that Factor VIII concentrates contain non-cellular particulate material which is retained by a 40 μ screen filter and which may be composed in part of fibrinoprotein. The clinical significance of this material is uncertain.

FEIBA IMMUNO: A PREPARATION WITH FACTOR EIGHT INHIBITOR BYPASSING ACTIVITY. F. Elsinger, IMMUNO AG, Vienna, Austria.

FEIBA IMMUNO is a preparation in which a new activity is generated capable of bypassing factor VIII. The preparation which is used to treat patients with inhibitors (especially inhibitors to factor VIII) is standardized in FEIBA units, i.e. in terms of its in vitro capacity to shorten the activated PTT of a factor VIII inhibitor plasma.

It could be concluded from different in vitro experiments that none of the classic activated coagulation factors is responsible for the factor VIII bypassing reaction; FEIB-activity seems to be correlated to a new complex of coagulation factors.

To get an answer to the question which coagulation factors are essential for FEIB-activity, we tried to generate this activity from different deficient plasmas; from these experiments the following conclusions could be drawn: the presence of at least factors VII, IX, and X is essential for the generation of the molecular species responsible for factor VIII as well as factor X bypassing activity, but factor V is not bypassed. This activity is not factor Xa itself. Factors VIII and V are not necessary for the generation of this active principle, but factor V is finally needed for its bypassing action.