SNB.008.6704

British Blood Transfusion Society

POSTER ABSTRACTS

INAUGURAL MEETING
Robinson College, Cambridge
16th & 17th December, 1983.

Board No. 1

Towards a High-Yield, High Quality Factor VIII Concentrate

Peter R. Foster (1), Alexander J. MacLeod (1), Bruce Cuthbertson (1), Ida H. Dickson (1) and Joan Dawes (2)

(1) Protein Fractionation Centre, S.N.B.T.S., Edinburgh.
(2) MRC/SNBTS Blood Components Assay Group, Edinburgh.

Scottish Factor VIII concentrate is prepared as an intermediate-purity product because of the higher yield obtainable in comparison to high-purity methods. Although improvements in quality are desirable, particularly a reduction in fibrinogen content and removal of the infectivity risk, these must be achieved without major loss of yield if self-sufficiency is to be maintained.

A process aimed at achieving this has been developed, combining a number of original features:-

(1) Continuous plasma thawing to maximise FVIII recovery in cryoprecipitate (Foster et al Vox Sang 42, 180-189, 1982).

(2) Precipitation of fibrinogen using zinc (Foster et al Thromb Haem 50, 117, 1983).

(3) In-process stabilisation of FVIII with calcium (Foster et al Thromb Haem 50, 117, 1983).

(4) Heat treatment in the presence of sorbitol and glycine (MacLeod et al, Thromb Haem 50, 432, 1983).

Heating conditions for viral inactivation have been carefully defined, using a range of model viruses, to attain a viral kill comparable to that achieved in the pasteurisation of albumin solutions.

Factor VIII, fibrinogen and other components of the final product have been analysed by radioimmunoassay. No immunological differences have been observed between heated and non-heated products, suggesting that the conformational integrity of the proteins has been retained.