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OPTIMUM USE OF AVAILABLE FACTOR VIII

1. Three categories of factor-VIII concentrates may be recognised, viz cryoprecipitate, lyophilized concentrate made within the National Health Service and the commercial lyophilized concentrates.
2. Cryoprecipitate is widely available to Haemophilia Centres through Regional Blood Transfusion Centres by which it is made. NHS lyophilized concentrates are made at the Plasma Fractionation Laboratories at Estree, Oxford and Edinburgh; note that of these three, the Oxford and Edinburgh Laboratories are locally related to individual Haemophilia Centres, and that that there is not yet sufficient NHS lyophilized material for wide distribution. Commercial concentrates may be readily purchased but are expensive.
3. Cryoprecipitate must be stored at -30°C or below and its potency cannot be known before use, whereas the lyophilized concentrates do not require freezing and are of known potency.
4. Cryoprecipitate is tedious and time-consuming to make up for use; and to prepare clinical doses, packs or bottles can only be pooled after each has been handled individually.
5. The last meeting of the Haemophilia Centre Directors was unanimous in preferring lyophilized concentrate to cryoprecipitate.
6. Haemophilic requirements at Haemophilia Centres may be divided into three classes:-
 - (i) The routine treatment of early bleeding in joints and muscles.
 - (ii) The provision of cover for dental extraction and routine surgery.
 - (iii) Cover for heroic surgery and major trauma, and the management of serious bleeding in patients with anti-factor-VIII antibodies.
7. There is also the rightly growing requirement to provide home treatment.
8. So long as cryoprecipitate must be used, it is probably least inconvenient for requirement 6(i), the routine, early treatment of minor bleeding at Haemophilia Centres. A dose derived from, say, 5 - 10 blood donations will generally be sufficient for adults, allowing for the usual range of activity for the material, and this number of donor units will not be excessively tedious to prepare at one time.
9. At Haemophilia Centres, it becomes progressively wasteful of time to give individual large doses of cryoprecipitate, involving the handling of many donor units, and this also tends to deplete stocks which would ordinarily treat minor bleeding in a number of patients. Although it has been possible to use cryoprecipitate for home treatment (Le Quesne et al, 1974), both storage

requirements and the inconvenience of administration make this an unsuitable material. NHS lyophilized concentrate should therefore be made generally available for requirement 6(ii), cover for dental extraction and routine surgery at Haemophilia Centres; and it will be the appropriate material to use for requirement 7, home treatment, when more can be made available.

10. In the present phase, while cryoprecipitate is still in use and NHS lyophilized concentrate insufficient for general requirements, the distribution of these two materials should be co-ordinated within the NHS. This will probably best be done within "functional" regions based on the three Plasma Fractionation Laboratories (see 2), in which Haemophilia Centre Directors, Blood Transfusion Centre Directors and the Plasma Fractionation Laboratory Director could be brought together on a committee to work out a local policy. Co-ordination is particularly needed in Greater London.
11. Until NHS supplies are adequate, commercial material should be used in three areas:-
- (i) As the material of choice for requirement 6(iii), cover for heroic surgery and major trauma, and in the management of serious bleeding in the face of anti-VIII antibodies. The use of NHS materials for these cases provokes a serious, temporary drain on resources needed for requirements 6(i) 6(ii). Special finance should be made available for this so that these occasional serious cases do not disproportionately inflate the Hospital drug bill at the Haemophilia Centre concerned.
 - (ii) As back-up supplies for requirements 6(i) and 6(ii) in the occasional incidents where NHS materials temporarily run out. Clearly, commercial factor VIII should only be ordered after all reasonable attempts have been made to obtain NHS materials; the local committee envisaged in 10 (above) could help here.
 - (iii) For the immediate provision of home treatment in suitable cases who live too far from a Haemophilia Centre to be adequately treated there (and who cannot, for the same reason, be supplied with cryoprecipitate from there even if they have a deep-freeze), and for whom NHS lyophilized concentrate cannot yet be obtained. This use of commercial factor VIII should be financed through the RHA appropriate to the patient's residence.
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12. To give some idea of the sum of money involved in supplying commercial factor VIII for 11(i) and 11(ii), the following details have been obtained from the Haemophilia Centres in the South East Thames Region, for money spent on factor VIII used at the Centres. For comparison, data has been entered from Oxford, ~~where much of the material is used for home treatment.~~

Haemophilia Centres in the South East Thames Region

Centre	1972/73	1973/74	1974 (half year)
Guy's Hospital	-	£ 1666	£ 24
King's College Hospital	-	-	1450
Lewisham Hospital	-	750	-
Margate (Isle of Thanet District Hospital)	-	601	-
St. Thomas' Hospital	£ 5780	5990	3465
Total	£ 5980	9007	4939

Oxford Haemophilia Centre

For first 8½ months of 1974 £75,747

Reference

Le Quesne, B., Britten, M.I., Maragaki, C. and Dormandy, K.M. (1974),
Home treatment for patients with haemophilia, *Lancet*, ii, 507.