PROTOCOL FOR THE EVALUATION OF ANTI-HTLV III KITS IN THE BLOOD TRANSFUSION SERVICE

1. OBJECTIVES OF THE TRIAL

1.1 To assess the integration of the tests into the work of the Regional Transfusion Centre and estimate the cost of routine screening.

1.2 To determine the prevalence of positive results obtained with different test kits in the same sample obtained from the blood donor population.

1.3 To determine the correlation between the results given by different test kits.

1.4 To determine the correlation between the positive results obtained using test kits and with confirmatory tests.

1.5 To determine the minimum specificity of different test kits. A first estimate is obtained as (1.0 - prevalence of positives). This is subsequently refined as kit positive tests are confirmed or not confirmed.

2. PROCUREMENT OF PRODUCTS FOR THE TRIAL

2.1 Test Samples

Approximately 12,000 serum samples from individual blood donors will be collected in 16 Regional Transfusion Centres (RTC's) in England, Scotland, Wales and Northern Ireland. Each sample will be used to prepare 15 aliquots in the manner detailed in Apendices I and II (the differences in the Appendices being related only to the number of samples collected).

The donor samples will not be positively identified but the blood collection session from which the samples were collected will be recorded at the collecting R.T.C. This information will not be available to the two testing RTC's. The samples will, however, be identified as coming from male or female donors.

2.2. Only test systems which have proved satisfactory in the P.H.L.S. phase 1 evaluation will be used for the trial, and for which sensitivities have been estimated.

2.3 A complete package will be purchased from each manufacturer comprising sufficient anti-HTLV III tests, controls, other reagents and consumables, each from a single batch as recommended by the manufacturers. These will be used in conjunction with capital equipment recommended by the manufacturers, which will be leased for the duration of the evaluation.

3. TRAINING OF BTS PERSONNEL

Each manufacturer will be invited to train the personnel in the RTC's carrying out the tests in the use of the kits and equipment, and to satisfy themselves that these persons are adequately trained.

4. GENERAL CONDUCT OF THE TRIAL

All tests will be performed exactly in the manner laid down in the Manufacturers' protocol or as specified in writing during the training period if an acceptable variation from that protocol is recommended.

5. TEST CENTRES

The two Transfusion Centres selected for the evaluation are at Manchester and Edgware. The Director of the Manchester Centre or his designated deputy will act as Co-ordinator for the conduct of the evaluation.

6. PROCEDURE TO BE ADOPTED FOR THE TRIAL

6.1 The Co-ordinating centre at Manchester will deliver, in the frozen state, a set of aliquots of the donor serum samples (see para. 2.1) to the other R.T.C. carrying out the tests.

6.2 It is intended to conduct the evaluation using half of the collected samples (i.e. approximately 6,000). The remaining samples will be kept in reserve in the event that statistical analysis of these initial results indicates that studies involving larger numbers of samples are required, for all or some of the kits.

6.3 At any one time separate aliquots of the same 6,000 sera will be under examination by the two RTC's (C1 and C2) in a cross-over designed study using two different test systems, i.e. C1 will use test kits from one Manufacturer (M1) whilst simultaneously C2 is using test kits from a different Manufacturer (M2). From an agreed date C1 will then use M2 kits simultaneously with C2 using M1 kits for tests on the same series of 6,000 aliquots of sera.

6.4 In order that an assessment can be made of the integration of these tests into the working pattern of the R.T.C. it is important that the number carried out each day reflects an average for the Transfusion Centres. To achieve this, C1 and C2 should perform tests on the minimum of one tray of aliquots each working day (approximately 580 samples).

6.5 At the end of each period of testing at C1 and C2 the results will be sent to the Co-ordinating centre. The Co-ordinator will refer reactive samples found in either or both series of tests carried out at C1 and C2 for confirmation after the complete series of tests on M1 and M2 have been performed. (See para. 6.8).

6.6 A set of known positive anti-HTLV III sera independent of any positive controls provided by the manufacturers will be included in each day's testing. (The exact details of disposition and numbers of these control antisera still requires finalisation).

6.7 Every effort will be made by the Co-ordinator of the trial to ensure that there is no consultation between C1 and C2 during the testing period.

6.8 When further test kits from other Manufacturers become available the same design for the evaluation will be used.

6.9 The Co-ordinator will categories the results on each sample screen of 6,000 tests as follows:

(i) **NEGATIVE**
(ii) **UNREPEATABLE SCREEN POSITIVE (USP)**
(iii) **REPEATABLE SCREEN POSITIVE (RSP)**

All samples categorised as USP or RSP from either M1 or M2 from C1 and/or C2 will be sent to PHLS, Colindale for confirmatory tests. The aliquots of sera for these tests will be sent after the results of each set of cross-over tests have been received by the Co-ordinating centre.

Included with each USP or RSP serum aliquot two adjacent aliquots which are negative for anti-HTLV III will be submitted to the PHLS. All samples will be coded.

Confirmatory testing at PHLS, Colindale will be by competitive radio-immunoassay, immunofluorescence (acetone fixed H9/3 and H9 cells) and further appropriate tests as recommended by the ad hoc Group).

7.0 **REPORT OF THE TRIAL**

Manufacturers will be given the opportunity to comment on the results of the trial of their product before the report is made available to the Health Service. Manufacturer's comments, where relevant, will be entered into the report.

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