GLASGOW AND WEST OF SCOTLAND BLOOD TRANSFUSION SERVICE

FIRST INTERNATIONAL MEETING ON HEPATITIS C VIRUS

This meeting was held in Rome from 14-15 September 1989 and was attended by workers from Europe, Australia, United States and Canada. The Chiron test is now being used in a large number of Blood Transfusion Laboratories thoughout the World and one is struck by the rapidity of this introduction. Either it is an example of good marketing on the part of Ortho or, as one delegate said, 'It is the test that we have been waiting for for many years in the investigation of alleged cases of non-A, non-B cases of hepatitis'.

Despite all of the excellent discussions, no one has actually seen this virus and the antigenic profile of the test materials has been skilfully worked out by molecular biologists using heavily infected and infectious material from chimpanzee colonies. The test is therefore a test for antibody to the sequence of simple polypeptide containing at least three epitopes. This latter feature may be the reason for some indeterminate results but it would seem, in most workers hands, that the results that are achieved are crisp and without too many grey or indeterminate zones.

There is still some doubt as to the reactivity of stored sera versus fresh sera, the fresh sera tending to give results clustering round the cut-off point and the stored frozen recovered sera giving a much broader profile.

Since the Paris meeting earlier this year where preliminary results were being collected, there seemed to be a never ending stream of workers giving results of screening programmes in their countries. All discussions were kept to a minimum until the round table discussions on the last day. These were meant to summarise the data from the formal lectures and more especially from the many poster demonstrations. This report will deal mainly with the broad outline of the discussions and the main features which, as I have stated, were sometimes repetitious.

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About 10% of persons being transfused, developed non-A, non-B hepatitis which can be of two forms - an acute form and a chronic form. The incubation time may vary from a few weeks to months. The exclusion of other viruses such as HAV, HBV, CMV etc, results in identifying that about 90% of cases are due to non-A, non B virus or viruses. About 50% of these will become chronic and of these 20% will develop cirrhosis or some long term liver impairment. Donor prevalence for the HCV marker antibody was divided into three groups: high prevalence such as East and South of Europe, intermediate such as Belgium, France, Federal Republic of Germany, the Netherlands and Austria and low prevalence such as Scandinavia and Australia. The scatter of results runs from 0.3% in Scandinavia to as much as 5% in certain parts of Southern Italy. The prevalence increases with age groups and males have a higher prevalence than females. The majority of repeatedly reactive samples do not have any surrogate markers such as elevated ALT or anti-HBc. Patients in the highest risk categories have the highest prevalence of anti-HCV: haemophiliacs from about 60-80%, intravenous drug abusers in the high 70%, and it has been noted frequently that the higher the ALT value, the higher the chances of finding anti-HCV positivity in both blood donors and recipients. Nevertheless, there are blood donors who are anti-HCV positive but do not seem to be infectious and equally there are cases where no marker or cause of the non-A, non-B hepatitis has been identified.

There was much discussion about the impact of the anti-HCV test and the requirement to continue with anti-HBc and ALT testing. Despite country-to-country variation there are also individual variations within individual countries and a distinct North and South difference exists in Italy and Germany. There seems a very significant correlation with stable elevation of ALT and active liver inflammation, even in cases where there was no history of previous blood transfusion.

In the screening of normal donor populations there does not seem to be any significant correlation between anti-HCV results and the presence of anti-HBc or ALT values. Since no confirmatory test has yet been developed or evaluated, it would be important, in the event of the anti-HCV test being introduced, that some form or set of control samples be issued with the test to ensure its sensitivity is maintained. The positive tests given as positive controls by the manufacturer are easy to detect and it is therefore possible that suspect or borderline samples might be missed. Some of these features are obvious in the data collected from the Scottish survey (results to follow). Attention is required in the monitoring of blood donors found to be positive or borderline. Results should be repeated on a number of occasions at subsequent donor attendances before the donors are counselled or notified.

The impact of introducing anti-HCV testing in Scotland, so far as patient morbidity is concerned, is likely to be low, although it is recognised that there will be individuals in the population who may progress to advanced liver failure and/or heptatocellular carcinoma as a result of acquiring HCV infection. Additional long term follow up studies are required in blood donors before the 0.5-1% of the voluntary donors in the United Kingdom are subjected to liver biopsy and other invasive procedures.

It is certainly gratifying to note that with the newer heat treated and solvent detergent Factor VIII preparations that HCV conversion in patients requiring such coagulation concentrates has not been demonstrated and that the low frequency of anti-HCV among female contacts of haemophilic patients would indicate that HCV is not easily transmitted by heterosexual contact or that it does not persist in spouses as long as it does in the haemophilic partners.

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