Witness Name: Professor Howard Thomas
Statement No.: WITN3824005
Exhibits: WITN3824006
Dated: 14th November 2019

INFECTED BLOOD INQUIRY

SECOND WRITTEN STATEMENT OF PROFESSOR HOWARD THOMAS

I provide this second statement in response to a request under Rule 9 of the Inquiry Rules 2006 dated 16 October 2019.

I, Professor Howard Thomas, will say as follows: -

Section 1: Responses to criticism of W1002

1. As stated in my first written statement of 29th October 2019, the study that Kathleen Stewart (W1002) cited in paragraph 26 of her witness statement as "page 474 of the study" (WITN1002013), was not the Bamber et al 1981 study as initially thought by the witness (this study does not have a page 474) but another study 'High risk of NANB after first exposure to volunteer or commercial clotting factor concentrates: effect of prophylactic immune serum globulin. Kernoff et al 1985; Brit J Haem: 60; 469-479) (WITN3824003).

2. Following preparation of my statement of 29th October, which was based on having read the abstract of the above paper on NIH PubMed, I have now read in detail this paper. I have also obtained a copy of the paper Luo et al 1983 (WITN3824006) cited in the Kernoff et al 1985 paper and read the Miller et al 1988 paper again (WITN3824004). This allows me to answer Mrs Stewart question about the use of the lab specimens more fully.

3. Because of increasing awareness at that time, that NANB hepatitis was occurring in patients treated for bleeding episodes or prophylaxis prior to surgery, the majority, if not all, patients treated at the Royal Free Hospital Haemophilia Unit were offered serial liver function tests to determine whether any individual had or was developing hepatitis, and the cause and severity of these episodes. Standard virological tests were done to exclude involvement of the known hepatitis viruses (HAV, HBV, EBV, and CMV) in either the Virology Dept or Hepatitis laboratory in the Dept of Medicine. The remaining serum was usually kept for several weeks in case further clinically relevant testing, such as PCR to detect HBV DNA, was required. At this time Dr Luo, a visiting Chinese research fellow working in my laboratory, had developed a candidate RIA for detecting putative NANB antigen and antibody in a variety of human sera (Luo at al 1983; J Med Virol 12: 253-265). This, although initially encouraging, did not identify known infectious material in an international panel of sera from the USA. It was not therefore used further on any patient serum as far as I know and Dr Luo returned home to China.

4. From 1978 to 1983, 58 patients had been treated by transfusion of cryoprecipitate,

NHS factor VIII and IX or USA factor VIII concentrate during clinical episodes to either 'stop bleeding or as prophylaxis prior to surgery' and in 1984 the data were reviewed recording the incidence of abnormal LFTs. At that time the only way to detect PT-NANB was by showing an elevation of AST levels because most cases were asymptomatic. From these studies it was apparent that the incidence of PT-NANB after cryoprecipitate treatment was very low (none of the five patients receiving cryoprecipitate developed AST elevation) but the risk of PT-NANB, often asymptomatic, after use of NHS (volunteer donors) and USA (paid donors) factor VIII concentrate, was virtually 100% in both cases. This was unexpected because up until that time, the incidence of symptomatic PT-NANB was much lower after transfusion of single units of plasma or whole blood in the UK compared to USA. Subsequently, after the discovery of HCV and the incidence of HCV infection in blood donors was found to be circa 0.1% in UK, this was understandable because around 1500-5,000 donations were used to produce each batch of factor VIII concentrate.

5. Against this worrying background the value of preventing the development of the hepatitis using prophylactic immune serum globulin was determined: this appeared to be of some value in preventing PT-NANB after NHS factor IX concentrate.

6. All the above studies were supervised by the Haemophilia Unit and Dr Kernoff states in the paper 'that the study was approved by the RFH Ethics Committee and all patients gave verbal consent'.

7. I am not able to provide any information on the identity of the patients which are anonymised in the paper.

8. My contribution, as a hepatologist, was to provide advice on management of the liver abnormalities if there was doubt about the aetiology or if they became persistent (lasted for longer than 6 months): at this time interferons were available and were beginning to be used to treat viral hepatitis in the USA and by our group and others in the UK. To this end, we set up a joint Haemophilia and Hepatology Clinic to assess whether treatment was required. In order to do this, we needed to determine whether the presence of persistent elevation of AST indicated progressive liver disease with a risk of cirrhosis and hepatocellular carcinoma, which would need treatment, possibly with interferon, and whether the severity of the liver disease could be determined by non-invasive tests. Two candidates in this role were CT scanning after an injection of contrast medium, to measure liver and spleen size and portal vein diameter, indicative of portal hypertension, and procollagen peptide III assay, indicative of synthesis and laying down of collagen leading to fibrosis and cirrhosis.

9. To validate whether these tests were indicative of liver fibrosis and cirrhosis, we did a retrospective study to see whether they correlated with fibrosis seen in liver biopsies undertaken for clinical indications over the previous years (1978-1983) (including those in Bamber et al 1981): these were published in Miller et al J Clin Path; 1988; 41;1039-1043.

10. The blood samples mentioned by W1002 taken in late 1980-81 were for clinically routine HBsAg and anti-HBs testing as indicated on the form and would occasionally be sent to Virology for other tests such as CMV and EBV. Any remaining serum was kept (see earlier) and may have been used for the pro-collagen assays mentioned above: I left RFH to go to St Marys in 1987 and the data were marshalled when I was preparing to leave and the paper was published in 1988 after I had left.

11. These various issues would have been discussed with patients in the joint clinic which was an attempt to respond to a rapidly changing situation and to keep patients informed of the choices to be made.

Section 2: Other Issues

12. None.

Statement of Truth

13. I believe that the facts stated in this witness statement are true.

Signed GRO-C

Dated 14th November 2019

Table of exhibits:

Date	Notes/ Description	Exhibit number
1983	Luo et al (1983) 'Prevalence of a Non-A, Non-B-Associated Antigen/Antibody System Detected by Radioimmunoassay in Acute and Chronic Liver Disease' J Med Virol v12: p253	006