

**Submissions to the Penrose Inquiry 2011, from Dr Charles Hay,
Consultant Haematologist:**

[...] I was the Haematology Houseman at Sheffield Royal Infirmary in the summer of 1977. As such, I managed some of the patients undergoing liver biopsy as part of the early investigation of non-A, non-B hepatitis, the results of which were published by Preston et al in 1978. This was essentially a research study and liver biopsies in such patients were not being carried out systematically elsewhere [...]

[...] I administered the first dose of DDAVP used by that unit for the treatment of haemophilia, very shortly after this treatment was first described by Mannucci in

Mannucci P.M., Colombo M.; "Liver disease in haemophilia"; The Lancet, 1985;

a letter to The Lancet. I was therefore made aware of non-A, non-B hepatitis very early in my career because of the research interest of the department in which I worked [...]

[...] as a senior registrar in 1983, I examined a patient in clinic who had severe haemophilia A and who had undergone liver biopsy only three years before. He had a recent history of confusion and had developed physical signs of cirrhosis. This diagnosis was confirmed by a further liver biopsy. His previous liver biopsy showed chronic persistent hepatitis. At that time chronic persistent hepatitis was thought to be non-progressive, based on a series of liver biopsies reported by Chadwick et al in patients with chronic hepatitis B. I proposed that the natural history of non-A, non-B hepatitis might differ from chronic hepatitis B and suggested a series of liver biopsies to investigate this further. This was agreed and we completed the investigation over the next 18 months or so. We showed progressive liver disease in a significant proportion of patients, a surprising and alarming finding at that time. This was published in 1985 and 1987 and formed the basis for my MD thesis (1989) [...]

[...] the rationale for ALT testing is that ALT testing of blood donations should reduce the risk of post-transfusion non-A, non-B hepatitis because non-A, non-B hepatitis is a common cause of an elevated ALT. Studies that assessed the risk of transmission of non-A, non-B hepatitis from blood and blood products prior to the advent of the hepatitis C antibody test did so by monitoring patients' liver function tests (LFTs) following transfusion [...]

[...] early liver biopsy series all found evidence only of very mild liver disease - mostly chronic persistent hepatitis - and the latter two groups very much emphasised the non-progressive and benign nature of chronic

persistent hepatitis. With the wisdom of hindsight one can see that these biopsy series were conducted early in the natural history of the condition since the patients had mostly only contracted hepatitis C in the late 1960s and early 1970s, when cryoprecipitate and then concentrate was introduced. Since the condition is usually non-progressive or slowly progressive. These findings were very influential at the time, and until the mid 1980s non-A, non B hepatitis was considered benign and non progressive. When I embarked on a series of liver biopsies in this patient group in 1984, one London Professor of Haematology (still practicing) rebuked me saying "What are you doing all these biopsies for? It's just a biochemical curiosity!" His view was not unusual[...]

[...] the Sheffield liver biopsy series completed in early 1985 showed progressive liver disease in a significant minority of patients. When I presented our findings to the AGM of the British Society of Haematology in April 1985 in advance of publication in The Lancet, the results were greeted with alarm and incredulity. When the results were published they initially excited a lively series of letters from Mannucci who still maintained that the condition was non- progressive. There was initial widespread reluctance to accept that non-A, non-B hepatitis was progressive in a significant minority of patients. Later that year, however, our findings were confirmed in the USA by Aledort et al and then others and gradually there was acceptance that the condition was much less benign than had previously been supposed [...]

[...] the risk of contracting hepatitis C from clotting factor concentrate approached 100% at all times prior to the introduction of viral attenuation. This was not known at the time (see above). It was appreciated that the risk from concentrate was greater than from plasma components but it was not recognised that the risk approached 100% until late 1983[...]

[...] in the early 1980s, the principal concern of haemophilia-treaters and of patients was AIDS and most counselling with patients around that time was completely dominated by this condition. Here was a condition that rapidly led to illness and then death for which there was no test or treatment. This overshadowed hepatitis, which was considered benign and of little concern at the time to the extent that patients were not counselled to the same degree about non-A, non-B hepatitis as they had been in the immediately preceding period. If they were counselled about hepatitis in the context of a consultation also about AIDS they would often "deny" hepatitis C and deny that it had been discussed. Denial is a common psychological defence mechanism. I have found that patients commonly deny that they have been counselled about hepatitis C even when such counselling has been documented in the notes[...]

[...] although it was recognised in 1985 and 1986 that non-A, non-B hepatitis was more severe than thought, this coincided with the advent of HIV testing and a rising death-rate from HIV and, soon after, the start of treatment with AZT. Patients would and should have been counselled about hepatitis but the whole issue was commonly overshadowed both in the patient and the clinician's mind by the more immediate problem of HIV. To give the Inquiry some idea, clinical consultations and clinic visits increased fivefold during this period and many additional staff were employed to deal with the problem of HIV. Many patients in my experience appear to have genuinely no recollection of documented conversations about liver disease that took place during that time [...]

[...] patients were regularly screened by ultrasound and alpha fetoprotein from the late 1980s and closer working relationships, and some joint clinics, were established with hepatologists from the late 1980s and early 1990s. Severe liver disease was jointly managed with hepatologists from the very beginning. During and since the late 1980s and early 1990s patients were repeatedly offered treatment for hepatitis C and would have been told how bad (or good) their own liver disease was and what their biochemistry and ultrasound showed at their clinic visits[...]"