A CASE OF APLASTIC ANAEMIA ASSOCIATED WITH FULMINANT HEPATITIS B

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ABSTRACT

Aplastic anaemia is a rare complication of Acute Viral Hepatitis. This complication occurs during the resolving phase of the hepatitis or can be delayed as long as six months after resolution. Most cases reported were associated with Non A and Non B hepatitis. We report a case associated with Acute Hepatitis B. The onset of aplasia during the acute phase of hepatitis, and patient's subsequent progression to fulminant hepatitis were the interesting features of this case.

Keywords: Acute Hepatitis B, Pancytopenia, Aplastic Anaemia

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CASE REPORT

Mr TJT, a 30-year old Chinese man was admitted to this hospital in May 1985 with a one-week history of jaundice, tea coloured urine associated with nausea and vomitting. He had been in Taiwan the week before when his symptoms began. Investigations done here and in Taiwan confirmed his diagnosis of acute Hepatitis B. The transaminases were markedly raised and blood serology was positive for both HbsAg and Anti-Hbc Igm (EIA; Abbot's Lab). He had no previous history of liver disease, was never jaundiced before and drank alcohol only socially. There was also no significant drug history. In Taiwan, he was only treated symptomatically with antacids and multivitamins.

On clinical examination, he was febrile and deeply jaundiced. The striking feature was that of numerous petechie over the trunk and all four limbs. A full blood count done revealed pancytopenia. This contrasted with the normal blood counts in Taiwan the week before (Table I, column 1). Subsequent bone marrow and trephine biopsy revealed a markedly hypocellular marrow. This confirmed the diagnosis of aplastic anemia. A coagulation screen at this time also revealed markedly prolonged prothrombin times (PT) and partial thromboplastin times (PTT). These were 23 seconds (control 11-13.5 seconds) and 111 seconds (control 20-38 seconds). He remained ill and on the third day after admission, became drowsy and developed asterexis. He remained ill till the sixth day when his conscious level lightened and gradually improved. He was finally discharged four weeks after admission. At this stage, he had an almost complete recovery from his hepatitis but his counts were still low (Table I, column 3). The counts remained low throughout the follow-up.

On 14 June 1985, 5 weeks after his illness, HBsAg was not detectable and anti-HBs antibodies were present. This was associated with an improvement in his haemoglobin level (Table I, column 4). He was started on courses of Stanazolol and Oxymethalone consecutively six months later. There was however no significant improvement in his blood counts and this was stopped (Table I, columns 5 & 6). When he was last seen in November 1987 he remained pancytopenic (Table I, column 7), but was otherwise well.

DISCUSSION

The hepatitis viruses (A, B, Non A non B) are generally known to affect organs other than the liver (1).

These viruses can cause a range of haematological conditions. Among the more serious is aplastic anaemia albeit rare. This association was first reported in 1955 by Lorenz and Quaser (2). Since then, over 200 cases have been reported (3). However, the majority of cases have been associated with Non A Non B viruses (3, 4). Hepatitis B as a cause of aplastic anaemia to our knowledge has only been reported in 4 other cases (5-8).

A few characteristics in our patient differ from those reported. Firstly, the aplasia in our patient appears permanent. This differs from the cases reported by Nakamura (5) and Kindmark (7) whose patients only had transient aplasia. Secondly, in our patient, the aplastic anaemia occurred in the acute phase of viral hepatitis. There were evidences of hepatic encephalopathy and prolonged coagulation times suggesting fulminant hepatitis. In previous reports, the majority of cases associated with Non A non B viruses developed aplastic anaemia only in the resolving phases of hepatitis (4). Among those caused by Hepatitis B, Casciato (6) and Kindmark (7) reported aplasia during the acute phase of the disease. One case reported by Ramano (8) occurred 6 months after the acute attack. In view of these findings, there is the possibility that the pathogenesis of aplasia

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Table I
TABLE OF EVENTS AND RELEVANT INVESTIGATIONS

Column	1	2	3	4	5	6	7
Date & Events / Investigations	9 May 85 in Taiwan onset of illness 1	17 May 85 in Singapore 2	1 Jun 85 on discharge 3	14 Jun 85 Loss of HbsAg 4	10 Jan 86 Stanazolol started 5	24 Mar 86 Oxymethalone started 6	2 Nov 87 When last seen 7
Full Blood Count Haemoglobin (g/dl)	13.0	10.7	6.4	9.9	8.2	9.0	9.1
Reticulocyte count (%)	0.5	1.0	1.0	1.5	2.5	2	1.5
Total White Defferential count (10^9/L)	10.2	2.5	2.4	2.8	2.8	2.8	3.1
Polymorphs (%)	62	55	46	44	38	51	55
Lymphocytes (%)	35	40	50	51	58	48	45
Monocytes (%)	2	5	4	4	4	1	2
Eosinophils	1	0	0	1	0	0	0
Platelets (10^9/L)	326	4	7	70	30	30	30
SGPT (Alanine transaminase) (iu)	920	3720	269	46	19	21	25
Hepatitis B status	HepBsAg+ve IgM Hbc+ve	—	—	AntiHbs+ve HepBsAg-ve	—	—	—
Others Partial thromboplastin time (20-38.4 secs)	—	111	—	—	—	—	—
Prothrombin time (11.0-13.5 secs)	—	24	—	—	—	—	—
Thrombin Clotting time (10-14 secs)	—	17	—	—	—	—	—

associated with Hepatitis B differs from that of the other viruses.

The acute onset of aplasia here suggests a direct effect on the marrow rather than the possibility of a viral induced autoimmune reaction against bone marrow cells as suggested by Firkin et al (9). It is also interesting to note that our patient appears to be the longest survivor among those associated with Hepatitis B. These cases died within 6 months of onset of aplasia (6-8). Our patient lost his HBsAg on the fifth week and the blood counts improved significantly after that (Table I, column 4). This phenomenon was also reported by Kindmark (7) whose patients also had fulminant hepatitis and showed recovery of the bone marrow after the HBsAg titres dropped tenfold. This perhaps indicates the direct role of Hepatitis B virus in aplasia. In 1974, Carmitta et al (10) advocated early bone marrow transplantation for post hepatitic aplastic anemia. However, at least in the case of Hepatitis B, this aplasia may be transient and in our patient, there was improvement with time. It might be more prudent in such cases to offer intensive supportive care and watch for recovery. It remains to be seen whether this patient would eventually develop leukaemia or paroxysmal noctural haemoglobinuria, complications known to occur in aplastic anaemia.

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