Bi-Phasic Hepatitis A

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Hepatitis A virus infection is the most probable diagnosis to a child with elevated serum aspartate aminotransferase (AST) and alanine aminotransferase (ALT) with elevated total bilirubin especially in the developing countries[1,2]. A positive Anti Hepatitis A IgM (Anti HAV IgM) usually will confirm the diagnosis. Knowing that most cases of Hepatitis A is self limited and chronicity is not recognised3, relapse or poly-phasic course can present a clinical difficulty to paediatrician and can lead to a lot of unnecessary and costly investigations. The following case report represents this condition.

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THE CASE

A 4 year old Sudanese female presented with 3 months history of intermittent abdominal pain and vomiting. A history of two weeks scleral icterus near the onset of the disease was reported followed by gradual improvement for two weeks. After that, the child was well for 3 weeks then the symptoms re-appeared. She was vaccinated with three doses against Hepatitis B. Physical examination during the relapse revealed non-tender hepatomegaly with a liver edge of 4 cm below the right coastal margin at the midclavicular line. Table 1 shows the fluctuation of the liver function with the corresponding clinical manifestation during different phases of the case. In the virological study of the case, anti-HBc IgM, HbSAg, CMV, HCV were negative by ELISA. Anti HAV and Anti HAV IgM were positive in both phases of the case. Using indirect fluorescent technique EBV IgG and EBV IgM were negative. Rheumatoid factor (RF) was positive up to 1:320 dilution.

Table 1. Clinical and laboratory course in different phases

Phase	*Phase 1*	*In-between*	*Phase 2*
Duration	4 weeks	3 weeks	4 weeks
Abdominal pain	+	-	+
Vomiting	+	-	+
Dark urine	+	-	+
Yellow sclera	+	-	+
Investigation:			
Bile pigment (urine)	+	-	+
S.Total Bil (umol/L)	71.4	8.5	40.8
Direct Bil (umol/L)	66.3	3.4	35
Alk.Phosphatase (U/L)	409	379	392
AST (U/L)	1550	808	1245
ALT (U/L)	1610	875	2064

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The brother developed the same symptoms one week after starting the illness in the sister and recovered before her. His HAV IgM was positive. Immunoglobulin was given to other contacts after the diagnosis of the brother.

Three months after the second phase (relapse) the girl was clinically well and did not show any further relapse. Her last LFT was as follows: Total Bilirubin 2.05 umol/L, ALP 251 U/L and ALT 87 U/L.

DISCUSSION

The topic of polyphasic or relapse in Hepatitis A is not covered even with a single statement in most of the general paediatrics textbooks. Although prolonged course in Hepatitis A is known among paediatricians, a polyphasic course or relapse can represent clinical difficulty to them. This difficulty is not only due to the confusion between chronicity which is not recognised in Hepatitis A, and polyphasic course or relapse, but because relapse is a rare event in the course of the Hepatitis A[4]. It needs alert parents and prolonged follow-up to pick up such cases. Jelico et al[5] in their follow-up study showed that 3.7 % (34

out of 910) of the Hepatitis A cases can have one or more relapse or phases. The asymptomatic interval between the phases can reach 8 weeks. Clinical symptoms accompanied by elevated aminotransferases were noticed in all the relapsed cases.

Presence of RF is a non-specific reaction to the acute viral infection. It can occur in high titer like our case in 25 % of cases of acute viral Hepatitis6. The presence of RF may lead to a false positive HAV IgM in some patients which can be removed by the removal of RF[7]. False positive HAV IgM is not a possibility in our case because of the clinical picture, the presence of total HAV and the presence of both HAV and HAV IgM in the brother. On the other hand the presence of RF can produce a false positive IgM to more than one virus in the same time[8]. Removal of RF can also eliminate this false positive reaction.

Fortunately, anti EBV IgG and IgM are negative. A positive EBV IgM can add to the difficulties in this case. A false positivity of IgM antibody to epstein-barr viral capsid antigen during acute hepatitis A was reported[9]. The presence of EBV IgG due to a previous exposure, and the presence of RF can be associated with a false positive reaction to EBV IgM. In this case, EBV IgG was negative but RF was positive.

Poly phasic hepatitis A is a known phenomena and a relapsing course does not appear to alter the benign prognosis[10]. Causes are unknown but autoimmunity or viral complementation may play a role[4].

CONCLUSION

We conclude that a positive anti HAV IgM is enough to confirm the diagnosis of hepatitis A without wasting more money and time as was the case in this patient. Preventive procedures to the contacts should not be delayed.

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