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A Case Study Of Fatal Hepatitis A With Dengue Infection

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ABSTRACT: Dengue is one of the most rapidly spreading mosquito-borne viral disease in the world [1]. Annually, about 50 million dengue infections occur, travelers from non-endemic countries to endemic dengue areas are at risk [2], most infections are asymptomatic, the hemorrhagic complication of the disease mainly affect children under 15 years of age [3]. Here is a case report of a 3 year old child with hepatitis A virus and dengue co infection. he had partial recovery of hepatitis A infection but with subsequent dengue virus co infection ,child developed complications like acutefulminant hepatic failure and death. The risk of DENV co-infection should be considered as cause of acute fulminant hepatic failure in pre- existing Hepatitis A infection

1. CASE REPORT

A 3-year-old boy was admitted to the pediatric intensive care unit with acute viral hepatitis A after 2 weeks of illness). He was healthy before this illness, but his vaccine history did not document hepatitis A virus immunization . The patient had acute illness of fever, abdominal pain and vomiting, with a deep yellow colour of the sclera. The diagnosis of hepatitis A was confirmed with IgM for anti-HAV.

The patient was managed supportively with intravenous fluid and observation, after 2 weeks of illness, he partially improved and was discharged. On the 18th day of his illness the patient was admitted to the pediatric ward in our hospital with abdominal distension, deep dark urine, and yellow sclera; he was conscious and alert at that time, but five days later his condition worsened, with irritability and a change in his sleep pattern noted. Therefore, he was transferred to the pediatric intensive care unit (PICU). His anti-HAV-IgM test was performed by ELISA; fever was not documented, and no meningeal or focal symptoms were observed. The laboratory test results are shown in Table 1.

The patient's respiratory condition worsened because of progressive abdominal distension, with hepatomegaly and no focal lesion on ultrasonographic study.

Further deterioration in the level of consciousness required airway intubation; the patient received antibiotics (piperacillin tazobactam 4 g/day), lactulose to inhibit intestinal ammonia production and diuretic therapy. On the 27th day of illness, the patient received intravenous gamma globulin in two doses.

Prolonged INR PT/PTT showed the abnormal coagulation profile of the patient, so treatment with fresh frozen plasma was provided. The suspicion of Dengue fever, a hemorrhagic disease, was raised and because of the patient's deterioration after initial recovery. The diagnosis of dengue hemorrhagic fever was confirmed using dengue virus IgM by ELISA, IgG was negative. PCR test was not approved by the insurance company at that time, but several endemic DENV cases were reported by PCR.

On the 32nd day of illness, a prominent coagulopathy was found, high level of

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ammonia and sever progressive thrombocytopenia, despite intensive treatment for hepatic failure, platelet trans- fusions, vitamin k therapy and fresh frozen plasma. The patient died on the 33rd day of illness secondary to massive pulmonary bleeding.

2. DISCUSSION

Dengue is human arbovirus disease transmitted by mosquitoes [4]. There are three DENV serotypes, DEN-1, DEN-2 and DEN-3. DEN-2 is the most common predominant The effect of Dengue on liver usually asymptomatic but fulminant hepatic failure have been reported in children [8]. Less than 1% of patients with acute HAV will develop acute liver failure [9].

We propose that the patient's deterioration after their initial recovery from HAV infection is secondary to DENV co-infection

Table 1
Laboratory findings

TEST	IN WARD	IN PICU
HB	10.8	7.5
WBC*10^9/L	6.5	10.6
PLATELETS	446	374
ALBUMIN g/dl	3.4	4.1
ALT U/L	558	1464
AST /L	812	2392
TOTAL BIIRUBIN mg/dl	10	27.3
DIRECT BILIRUBIN mg/dl	8.3	12
SERUM AMMONIA	53	88
SERUM CREATININE	0.8	0.5

3. CONCLUSION

Although acute fulminant hepatic failure can be the result of HAV infection or DENV infection solely, we believe that this case can bring light to the fact that when the course of infection becomes complicated after the initial recovery, the risk of DENV co-infection should be considered, and stays in highly endemic areas of Dengue fever should be avoided by patients with pre- existing hepatitis.

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