Dengue Infection Presenting as Acute Liver Failure

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Abstract:
Dengue Infection Presenting as Acute Liver Failure

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Background Dengue infection is transmitted by Aedes and is endemic in certain regions of the world. The clinical manifestations of dengue infection may manifest from a clinically asymptomatic state to dengue shock syndrome and death. Dengue infections and its outcomes are regarded as poor when it involves multiple systems simultaneously especially involving Liver and central nervous system. Although liver involvement is atypical, but cases and case series have been reported in the literature.

Case Report A 16 year old boy from Andhra Pradesh presented with fever for 3 days and jaundice with altered sensorium of two days duration. On admission he was conscious but disoriented with Grade II hepatic encephalopathy. His vitals were stable. He had icterus and skin exam was normal. His CNS examination was unremarkable including a fundoscopic examination.

His per abdomen examination was normal with a normal liver span. His baseline investigations showed Complete hemogram Hb of 17 gm, PCV (hematocrit) of 53 and platelet count of 23,000mm3. His urea 44 and creatinine was 1.3 respectively (441.3 mgdl). His PTINR was 19.21.7 (control 10.2-12.41.1) and aPTT was 86.6 (control upto 34). His liver functions - Total Bilirubin 15 Direct Bilirubin 12 Protein 6.3 Albumin 3.0 AST 1445 ALT 1654 SAP 195) The CECT brain was normal and an USG abdomen was also normal. During the subsequent days in hospital, his sensorium worsened and he developed epistaxis. A repeat platelet count was done and it was 7,000mm3. His LFT showed ASTALT 98653148 IU/ml and serum LDH and Serum fibrinogen were 10962 IU/ml and 59.7 mgdl respectively. His serum IgM HAV, IgM HEV and leptospira serology were negative. His dengue serology was positive.

Conclusion Dengue infection can present as acute liver failure. The management is supportive and the recovery is uneventful usually.

Keyword: Dengue Infection Presenting as Acute Liver Failure
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Introduction:
Dengue infection is transmitted by Aedes and is endemic in certain regions of the world. The clinical manifestations of dengue infection may manifest from a clinically asymptomatic state to dengue shock syndrome and death. Dengue infections and its outcomes are regarded as poor when it involves multiple systems simultaneously especially involving Liver and central nervous system. Although liver involvement is atypical, but cases and case series have been reported in the literature.

Case Report:
We report a case of dengue shock syndrome which presented as Acute liver failure (Jaundice, Hepatic encephalopathy, coagulopathy with overt Bleeding and disseminated intravascular coagulopathy) which was followed by spontaneous recovery. A 16 year old boy from Andhra Pradesh presented with history of fever with 3 days duration which was followed by jaundice and altered sensorium of two days duration. On admission he was conscious but disoriented with Grade II hepatic encephalopathy. His Pulse was 88 /min and his BP 110/80. He had icterus, there was no overt bleed or any skin rash. His CNS examination was unremarkable including a fundoscopic examination. His per abdomen examination was normal with a normal liver span. His baseline investigations showed : Chest X ray was normal and complete hemogram showed an increased Hb of 17 gm, PCV (hematocrit) of 53 and a low platelet count of 23,000/mm³. His urea and creatinine were within normal limits (44/1.3 mg/dl). His coagulation profile was deranged with PT/INR was 19.2/1.7 (control 10.2-12.4/1.1)and aPTT was 86.6( control upto 34). His liver functions showed a direct hyperbilirubinemia with marked transaminitis.

(Total Bil 15/Direct Bil 12/ Protein 6.3/ Albumin 3.0/ AST 1445/ ALT 1654/ SAP 195 A CECT brain was done, which was normal and an USG abdomen was done and it was also normal. During the subsequent days in hospital, his sensorium worsened and he developed epistaxis. A repeat platelet count was done and it was 7,000/mm³. His LFT showed a worsening trend with AST/ALT 9865/3148 IU/ml. His serum LDH was 10962 IU/ml. Serum fibrinogen levels were 59.7 mg/dl. His serum IgM HAV and IgM HEV were negative, his leptospira serology was negative. His dengue serology IgG and Ig M was positive. Since his all other etiological work up was negative except a positive dengue serology, he was diagnosed as dengue infection with acute liver failure and DIC.

Treatment received:
He was managed with supportive treatment, initially started on empirical antibiotics with a possibility of ALF. He also required cryoprecipitates for DIC due to overt bleed. Subsequently he improved and was discharged in a stable condition.

Follow up:
He followed in Liver clinic twice, 1st visit ( after 1 week of discharge) was for checking his lab parameters and his 2nd visit( after 1 month of discharge) was for dyspepsia which improved after PPI's.

Discussion:
Dengue fever presenting as Acute liver failure is not uncommon in south east Asia. The first epidemics of Acute liver failure were reported from Indonesia in 1970’s and later on other epidemics were also noted in Thailand in...
1987 and followed by malasia in 1995 respectively. The diagnostic dilemma arises when at presentation it mimics Acute liver failure due to common causes such as Hepatitis B related, Wilson’s disease or drug induced, because of the management issues and immediate referral for liver transplant if required. The differentials include liver failure due to hepatotropic viruses (Hepatitis B/ Hepatitis E/Hepatitis A), Wilson’s disease, drug induced (anti tubercular drugs/ native medications) and infection due to non hepatotropic infections (malaria, leptospirosis, EBV or dengue). The possibility of pregnancy related liver diseases should always be considered when the patient is young, married and pregnant. The management is supportive and the recovery is uneventful usually.

Bibliography:


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