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Test Your Knowledge

AN ADULT WOMAN WITH FEVER, COUGH AND ABNORMAL LIVER FUNCTION

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Case history

A 44 year-old Malay housewife presented to the outpatient clinic of a private hospital with history of high grade fever for four days associated with chills but no rigors. She experienced cough, headache, body ache, nausea and occasional vomiting. There was no urinary or bowel symptoms.

Progress of the patient (Figure 1)

- At initial presentation to the clinic at Day 4 of illness, she was unwell with fever 38°C. Otherwise there were no abnormal findings. Both upper respiratory tract infection (URTI) and dengue fever were considered likely. The dengue serology (both IgG and IgM) were negative but platelet count was slightly reduced. Her PCV was 40%. She was advised rest at home with symptomatic relief.
- She returned for a follow-up at Day 6 of illness, blood investigations confirmed dengue fever and she was advised admission. Her PCV in the ward was 38%. She was well in the ward (blood pressure normal and no bleeding tendency) and requested discharged two days later and remained well thereafter.
- She was seen on two more occasions in the outpatient clinic. At Day 10, despite remaining well, her liver enzymes showed elevation of up to two-three times normal but returned to near normal by Day 16.

Question

(a) What type of dengue fever was she having?
(b) How common is cough in dengue fever?
(c) Is it necessary to check liver function test in dengue patient in the primary care setting?

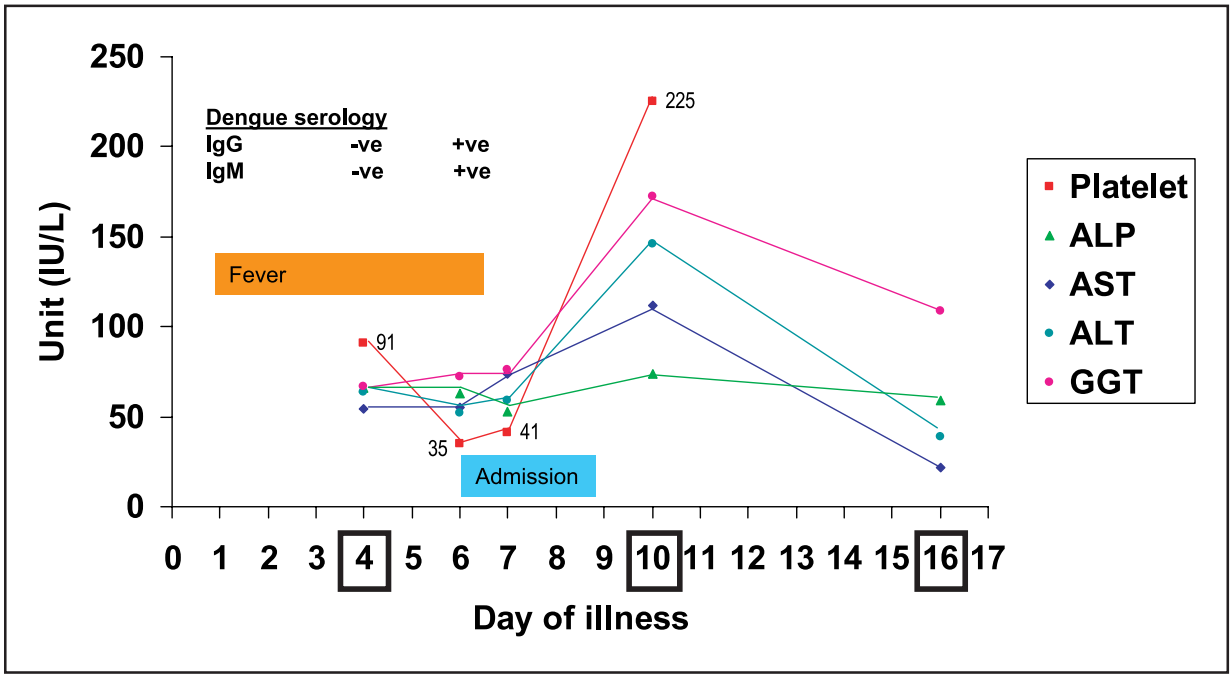

Figure 1. Symptoms, laboratory test and progress in patient
NB: ALP, alkaline phophatase; AST, aspartate transaminase; ALT, alanine transaminase; GGT, gamma-glutaryl transminase; liver enzymes are in IU/L; platelet count is in $x10^9$/L

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ANSWER

(a) She had acute primary dengue fever. She did not have feature of dengue haemorrhagic fever (DHF) such as bleeding tendency. The presence of IgM antibody suggests she had acute dengue. Dengue IgG is often detectable even in the early phase of secondary dengue,[1] which was not seen in this case.

(b) Respiratory tract involvement is often thought to be uncommon in dengue fever. However, evaluation of serologically proven dengue cases has shown that cough was reported as a symptom in a significant proportion of cases in Singapore (26%),[2] Thailand (26%),[3] Taiwan (37.6%)[4] and Vietnam (30.7-53.1%).[5] Interestingly, in two studies[2,5] the frequency of cough was similar in the dengue and non-dengue cases. This symptom was also found to be more common in children than in adults,[3] and more in primary dengue than in secondary dengue. [5] This underlies the importance of including dengue in the differential diagnosis of febrile patient with respiratory symptoms in the primary care setting.

(c) LFT is seldom performed in suspected dengue fever in the primary care setting unless there are clinical signs pointing to liver involvement (e.g. jaundice). Clinical studies showed that mild biochemical liver dysfunction is very common in dengue (>90%).[6-9] Furthermore, dengue haemorrhagic fever tended to have higher liver enzymes than classical dengue fever.[9,10] Although abnormal liver function test is not a good indicator of DHF, normal plasma aspartate aminotransferase had high negative predictive value for DHF.[11] Perhaps a case can be made for more frequent LFT testing in suspected dengue infection in primary care.

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