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RESEARCH ARTICLE

AN UNUSUAL CASE OF DENGUE FEVER

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ABSTRACT

In India spread of dengue fever and dengue haemorrhagic fever is increasing, neurological manifestations are also increasing, although they may be under reported because of lack of awareness. There are some atypical manifestations of dengue, such as dengue encephalitis, dengue rhabdomyolysis, dengue myocarditis, dengue hepatitis and dengue cholecystitis which are mostly go unnoticed. We report here a case of 20 year Fever, Headache and difficulty to movie the lower limbs female presented with of dengue fever with myocarditis and rhabdomyolysis. On CNS examination she had B/L lower limb power was 1+/5, proximal > distal. Her other systemic examination was normal. On MRI scan she had multiple small cerebellar bleed. On investigations, Dengue Ig G tests was Positive. CPK levels were high (1751), LDH leves were high (206) and urine myoglobin test was also positive suggestive of Rhabdomyolysis. In course of her illness she developed myocarditis too ECG showed tachycardia non specific ST-T changes and T wave inversion. Her 2D echo-cardiography report was normal. She was treated with good IV hydration, steroids, platelets transfusions n mannitol. At the time of discharge power in both limb was 4/5 and general condition improved.

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INTRODUCTION

Mechanism of Rhabdomyolysis is the rapid breakdown of skeletal muscle with leakage of muscle cell contents into the circulation (Bosch *et al.,* 2009; Cervellin *et al.,* 2010). This results in myonecrosis presents clinically as limb weakness, myalgia and gross pigmenturia without haematuria (Bosch *et al.,* 2009; Cervellin *et al.,* 2010) Common complication of rhabdomyolysis is acute renal failure. It is due to the toxic efects of altering myoglobin in the condition of hypovolumia (Hellmann and Imboden, 2013). The causes of rhabdomyolysis are protean, influenza, HIV, coxsackievirus, and cytomegalovirus like viruses (Bosch *et al.,* 2009; Davis and Bourke, 2004). Cardiac involvement in the form of decreased left ventricular function and arrhythmias are well known. However, isolated myocarditis has also been seen with dengue virus. We report here a case of 20 year female case of dengue fever with myocarditis and rhabdomyolysis presented with paraplegia.

CASE REPORT

A 20 year female presented to K.L.E's Dr. Prabhakar kore hospital and MRC , Belgaum with complaints of fever since 8 days , loss of power of bilateral lower limbs since 8 days and headache since 5 days.

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Fever was intermittent not associated with cough, burning urination, no loss of blood in form of either malena or hematemesis. She developed rash in form of maculo popular after 2 days of admission. She was complaining of severe muscle ache which was started with fever only. She was admitted outside in a private hospital for 10 days, on post partum 20th day with diagnosis of urosepsis followed by acute renal failure and treated successfully 20 days prior to admission to K.L.E hospital. On examination power was 1/5 bilaterally on admission, DTR were normal n plantar also flexar, sensations were also normal. No cranial nerves were involved. Her other systemic examination was normal. Patient was complaining of weakness in both lower limbs which was associated with dull aching muscle pain. Weakness was progressive in nature and patient was not able to move limbs in bed over 4 days. No weakness in B/L upper limb / neck rigidity / bowel bladder habits were normal. She was also complaining of headache which was diffuse not associated with any loss of vision or syncope. LP was not done in view of thrombocytopenia. By the end of clinical examination we reached on 3 provisional diagnosis:

Sepsis vs Dengue fever vs Meningoencephalitis

In view of persistent headache we did MRI brain and found that she had multiple small cerebellar bleed. As shown in following pictures: Image 1 and Image 2

Image 1

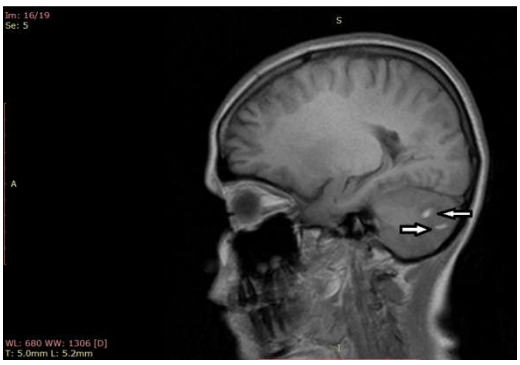
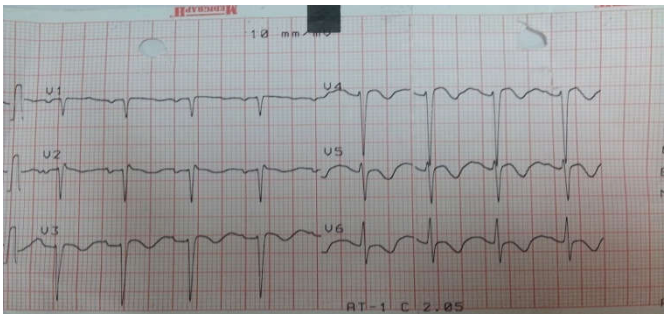
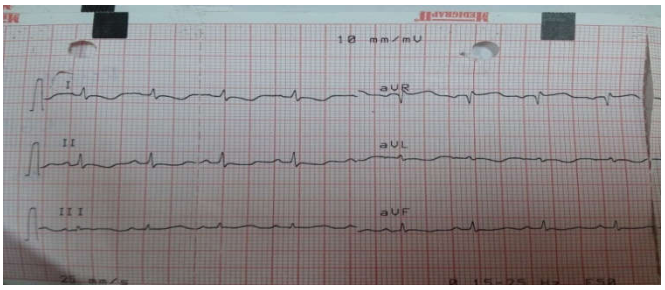


Image 2



PIC.1



PIC.2

Eventually in course illness her bilalteral lower limb power increased gradually from 1/5 to 4/5 on discharge.

In view of fever n all symptoms we did following investigations:

date	31/10/13	1/11/13	2/11/13	3/11/13	4/11/13	6/11/13
Blood Grp	A+ve					
Hb	7.8	8.7			10.4	
RBC	2.97				3.86	
Platelets	84000	59000	100000	1,05,000	1,50,000	2,08,000
TLC	1700			1700	3600	5400
Neutrophils	55				41	
Lympho	41				49	
Eosino	2				10	
RBS	114					
Urea	22				31	
Creatinine	0.65				0.5	
Total bilirubin	0.54			0.60		0.42
Direct bilirubin	0.13			0.21		0.08
AST	254			117		41
ALT	234			180		116
S. Albumin	2.2			2.5		2.9
CPK	1751				276	192
LDH	206					
INR	2.01		0.95			
D-dimer	0.8					

Dengue Ig G- positive (3.2) urinary myoglobin - positive

Dengue Ig M – negative PS for malarial parasite - negative

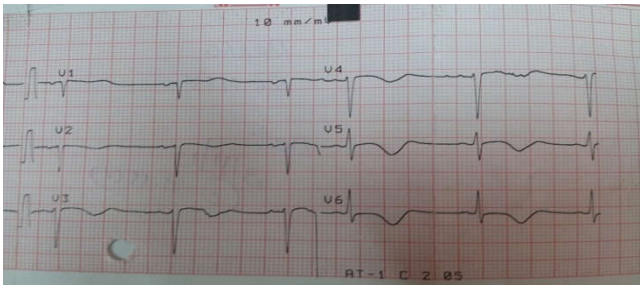
Peripheral smear – pancytopenia

In course of illness she developed myocarditis initially it was associated with tachycardia n there after receiving treatment with steroids, bradycardia Pic.1,2,3 showing serial ECG changes suggestive of mayocarditis. 2D echocardiography was normal . We treated this case with good IV hydration, iv steroids and blood transfusion. For bleed we treated her with mannitol n other measure.

Now patient don't have any muscle weakness or body ache 1month post presentation.

DISCUSSION

This patient fulfils the criteria for a conirmed case of dengue fever as defined by the World Health Organization (WHO) (Teixeira and Barreto, 2009) having presented with an acute febrile illness associated with headache, myalgia, thrombocytopenia and leukopenia and occurring at the same location and time as another confirmed case of dengue fever.



PIC.3

It was verifed by a positive IgG antibody test. Patient had rhabdomyolysis with the typical triad of generalized weakness, myalgia, and dark urine/myoglobinuria associated with a CPK that was more than five times the upper limit of normal (Cervellin *et al.,* 2010). She had myocarditis with ecg changes and echocardiography was normal. Although there are few case reports of rhabdomyolysis and myocarditis associated with dengue fever, major textbooks do not mention the dengue virus as a possible cause of rhabdomyolysis (Davis and Bourke, 2004; Karakus *et al.,* 2007). We found only few review article on atypical manifestations of dengue fever which includes rhabdomyolysis as a possible complication (Gulati and Maheshwari, 2007).

The mechanisms involved in the development of rhabdomyolysis in patients with dengue fever are unknown (Bosch *et al.,* 2009; Davis and Bourke, 2004). Davis and Bourke suggest that since the dengue virus have same several features with other infectious viruses known to cause severe myositis, so we can say that dengue virus could also cause rhabdomyolysis (Davis and Bourke, 2004). Their study suggest that the most likely factors in mechanism of rhabdomyolysis are may myotoxic cytokines, particularly tumour necrosis factor (TNF) and interferon alpha (IFN-alpha) released in response to a viral infection (Davis and Bourke, 2004). Clinicians should note that the presentation of rhabdomyolysis can be subtle but its complications, in particular, acute kidney injury and multiorgan failure, can be devastating. These adverse effects are preventable with early recognition and institution of the appropriate management.

We suggest that all patients with dengue fever should have a urinalysis done and that those who test positive for blood should have urine microscopy and a CPK test in order to determine if the patient may have rhabdomyolysis. This approach could be potentially lifesaving.

Conclusion

Rhabdomyolysis should be recognized as a possible complication of dengue fever like acute renal failure and high mortality and clinicians should get possible test get done to rule out this avoidable complication.

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