

Ventricular Tachycardia in Primary Dengue Fever

Meet M Thacker¹, Prakash V Makwana²

¹Senior Resident in Medicine, ²Professor of Medicine, Shri M.P. Shah Govt. Medical College, Jamnagar, Gujarat

Sir,

Dengue Fever is one of the most common Arboviral diseases in India.¹ It usually presents as an acute viral illness, most commonly, self limited, and subsides with only supportive treatment.² Complications are rare and usually consist of Dengue Hemorrhagic Fever (DHF) and Dengue Shock Syndrome (DSS).³ It is postulated that, dengue rarely affects the heart. Medical literature has reports of isolated cases of atrioventricular conduction disorders (junctional rhythm and atrioventricular block), ventricular and supraventricular arrhythmias, and myocarditis.⁴ On the other hand, the ventricular dysfunction associated with the acute phase of dengue hemorrhagic fever has been described by several authors and is probably under diagnosed in clinical practice.⁵ Although cardiac manifestations of Dengue are rare, and Arrhythmias are even rarer, most common form of arrhythmias seen in Dengue Myocarditis are atrioventricular Blocks.⁴ We present a case of Ventricular Tachycardia occurring due to Dengue Myocarditis, only a handful of cases of which have been reported till date.

Mrs F, a 30 year old otherwise asymptomatic female, presented to our hospital with fever with chills since 7 days, associated with generalised body ache, headache, retro-orbital pain, myalgia since 3 days, abdominal pain, nausea, vomiting since 2 days. Patient

had taken some primary treatment from a local private practitioner nearby, however no documentation of which was available. No investigations were done at that visit. Upon arrival at our hospital, patient was febrile (103.8 F), with Pulse rate- 108/min, Regular in Rhythm, Blood Pressure- 110/68 mmHg, Respiratory Rate of 18/min. Examination of the RS, CVS, and abdomen revealed no evident abnormality. Patient was admitted and a provisional diagnosis of Viral Fever was made, supportive symptomatic treatment for which was begun. Investigations on admission were- Haemoglobin- 13.1g/dl, Total WBC Count - 7200x10³/ul, Platelets- 82,000/ul, AST- 42 IU/L, Serum Bilirubin- 0.8(0.2+0.6) g/dl, Serum Creatinine- 0.8mg/dl. Dengue NS1 antigen was negative, but Dengue IgM Antibody positive by ELISA, thereby confirming the diagnosis of Primary Dengue Fever. Routine Electrocardiogram (ECG) and Chest X-ray were done which were normal.

After admission, the patient was stabilised and was showing signs of improvement, with increasing Platelet count (96,000/ul) on Day-2. No evidence of 'Capillary Leak' was noticed anytime during the stay. On day 4 of admission, patient complained of three dropout attacks in morning and considering syncopal attacks, the patient was shifted to ICCU for ECG monitoring and further management. Upon arrival at ICCU, baseline ECG showed no abnormality. But within 4 hours of observation, patient had 2 episodes of Non-sustained Ventricular Tachycardia (NSVT), recorded on the ECG monitor, and after 4 hours, patient had an episode

of sustained Pulseless Ventricular Tachycardia, which was recorded on the ECG shown in Figure 1 and treated with prompt Cardioversion. Other investigations sent thereafter, showed a high ESR and positive Troponin I (2.4 ng/ml). A 2-D Echocardiogram revealed generalised LV Hypokinesia, with Ejection Fraction (EF) 40%, all favouring the diagnosis of Myocarditis. The rest of the stay of the patient was uneventful. Subsequently, considering viral etiology for Myocarditis, patient was discharged on Steroids (1mg/kg Prednisolone), Amiodarone (200 mg OD), Metoprolol (50 mg/day), and was kept on regular follow up. After a month, Amiodarone was stopped and steroids tapered. On subsequent follow up at 6 months, the patient had no further symptoms and 2D Echo had normalised.

Cardiac dysfunction associated with the acute phase of Dengue has been under diagnosed in clinical practice. Although cardiac manifestations specific to dengue are rare, depression of myocardial function is frequent in dengue hemorrhagic fever and dengue shock syndrome. Ventricular Tachycardia is one such rare but potentially fatal complication, and thus physicians need to be made aware of it.

References

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Fig. 1: ECG (at 25mm/sec) taken on Day 4 of admission, showing Ventricular Tachycardia