Sir,

South Eastern part of Rajasthan state “Hadoti Zone” faced an outbreak of dengue fever during the months of September to December 2012. A total number of 48 patients were admitted with ELISA IgM/IgG positive for dengue fever. We report a series of 8 cases of dengue fever with sinus bradycardia, age ranging between 15 years and 34 years.

Apart from typical clinical features and laboratory parameters of all the 48 cases, in 8 patients bradycardia (42/min to 52/min) was demonstrated from day 3rd - day 9th of the illness in all except one, in whom it developed on day 13th. Lowest heart rate was noticed in 2nd week of illness (day 9-14) in all except one, who developed pulse rate of 45/min on day 5th. ECG revealed sinus bradycardia without any ST-T changes. There were no hidden P waves and every P wave was followed by QRS complex. Echocardiography done in one symptomatic case showed decreased ejection fraction (LVEF 42%).

The patients were managed as per world health organisation (WHO) recommendations. No specific treatment was given for bradycardia as it was asymptomatic. All the 8 cases were discharged (day 9 to day 16 of illness) after symptomatic improvement with normal platelet count but with pulse rate less than 60 per minute. Patients were followed up weekly and pulse became normal during third and fourth week of their illness.

Discussion

Febrile illnesses such as typhoid fever, Legionnaire’s disease and pneumonia caused by chlamydia sp are commonly mentioned in cause list of relative bradycardia. Various arboviral infections can cause myocardial damage, either by direct invasion or an autoimmune reaction resulting in myocarditis. The cardiac manifestations in dengue, also an arboviral infection, are invariably benign, transient and self-limited and are attributed to subclinical viral myocarditis, various ECG abnormalities (sinus bradycardia and prolongation of the PR interval) have been demonstrated in 44- 75% of patients with viral haemorrhagic fever.1 Cardiac rhythm abnormalities, including ventricular arrhythmia, atrial fibrillation and atrioventricular block, have been observed during the acute stage of dengue haemorrhagic fever. Rhythm disturbances, such as bradycardia and ventricular ectopics, have also been reported during the convalescence period of dengue fever.2 We observed sinus bradycardia in 8 out 48 patients admitted during the recent epidemic outbreak. We want to highlight that bradycardia in our patients was not relative because it was noticed even during the afebrile state of the patient in acute as well as convalescence period. The exact pathophysiology of bradycardia in dengue fever is uncertain, relative importance of immune, neural mechanisms or any direct cardiac pathology has been postulated in previous studies, which requires further confirmation.

Conclusions

The rhythm abnormalities in dengue fever tend to be benign and self-limited, and resolve in the majority of patients at discharge or on follow up.3 Bradycardia in dengue fever may not only be a relative phenomenon and should be looked at carefully during both acute and convalescence period. However the bradycardia in dengue fever does not correlate with the severity of illness or affect the management and outcome of the patient.
References

1. Smyth and Powell 1954; Boon, 1967
