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Original Research Paper

Community Medicine

DENGUE AND ENTERIC FEVER CO-INFECTION : A KNOWN ENTITY?

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ABSTRACT

INTRODUCTION : In this paper, we describe five cases of Dengue fever and Enteric fever co-infection.

MATERIAL AND METHODS : The study design used was a cross sectional descriptive study.

RESULTS : All the five cases which occurred during the period of study were confirmed by blood culture for salmonella typhi and NS1 Antigen for dengue fever. There were no complications or fatalities.

DISCUSSION : Co-infection with Dengue and Enteric fever has been reported by several workers in India as well as abroad. In our study we have reported five cases of culture positive Salmonella typhi out of eleven cases of dengue fever.

RECOMMENDATIONS : While dealing with cases of dengue, co-infection with enteric fever should always be kept in mind.

CONCLUSION: The workers emphasize that the risk factors predicting the presence of such co-infections, if identified, will certainly go a long way in controlling the incidence of dengue and typhoid co-infection.

KEYWORDS :

INTRODUCTION

In September 2019 , the workers came across a large number of fever cases in a mid sized city of India. Detailed epidemiological investigations revealed that there was an outbreak of 28 cases of Enteric fever and 17 cases of Dengue fever. In this paper, we describe five cases in these two outbreaks who had Dengue fever and Enteric fever co-infection.

MATERIAL AND METHODS

The study design used was a cross sectional descriptive study. Period of the study was Sep 2019 in a mid sized city of India. Detailed information pertaining to date of onset of symptoms, date of admission, movement history during the known incubation period, history of having worked as food handler in the cook house, personal hygiene and other relevant data was obtained from each case. Besides, active case finding by way surveys during the period of the outbreak was also carried out.

The study team reviewed thoroughly all the cases which occurred during the period of study. A detailed clinical and epidemiological history was elicited. Case definition used for confirmed case of Enteric fever by the workers has already been validated by Pardal MPS et al.[1] Case definition for confirmed case of Dengue fever has also been validated by Kunwar R et al.[2]

RESULTS

All the five cases which occurred during the period of study were confirmed by blood culture for salmonella typhi and NS1 Antigen for dengue fever. All the cases had clinical features of Enteric fever viz, moderate to high grade fever, relative bradycardia, pain abdomen, loose motions, headache and cough. However, rose spots were observed only in 2 (40%) cases. All the cases also displayed clinical features of Dengue fever, viz muscle and joint pain; and 3 (60%) of them had vomiting in addition to the above features of Enteric fever.

There was no leucopenia or relative lymphocytosis in any case. The organism was confirmed on blood culture as S *enterica* serovar Typhi (*S typhi)* in all the five cases. The antibiotic sensitivity test revealed resistance against ampicillin, chloramphenicol, and cotrimoxazole. The patients did not show good clinical response to ciprofloxacin, while the best clinical response was obtained with ceftazidime. There were no complications or fatalities in any of these cases.

DISCUSSION

Enteric fever and dengue fever have been major cause of morbidity and mortality all over the world. is a major cause of morbidity and mortality in tropical areas worldwide.[3,4,5,6] Sudjana P et al reported a case of Dengue and typhoid fever co-infection in an adult in Indonesia.[7] Bansal R et al reported two cases of Dengue fever and typhoid co-infection in 2015.[8] Sharma Y et al reported eleven cases of typhoid co-infection out of 141 cases of dengue, giving a coinfection rate of 7.8% in North Delhi.[9] Srinivasaraghavan R et al reported a case of culture positive Salmonella typhi in a ten year old child with dengue fever.[10] In our study we have reported five cases of culture positive Salmonella typhi out of seventeen cases of dengue fever, thereby giving a co-infection rate of 29.41% which is much higher than that carried out by Sharma Y et al.[9] Besides, this is one of the rare instances wherein, five cases of dengue and typhoid fever are being reported, as against other workers who have reported one or two such cases.[7,8,10]

RECOMMENDATIONS

In day to day clinical practice, while dealing with cases of dengue either typical or atypical, co-infection with enteric fever should always be kept in mind. Besides improvement of sanitation and personal hygiene, emphasis should be given on vaccination against typhoid. In order to reduce the burden of dengue fever, all strictest possible preventive measures to control the breeding of Aedes mosquito must be implemented.

CONCLUSION:

The workers wish to emphasize that the risk factors predicting the presence of such co-infections, if identified, will certainly go a long way in controlling the incidence of dengue and typhoid co-infection.

CONFLICTS OF INTEREST

None identified

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