Outbreak of Polyarthritis with Pyrexia in Western Rajasthan

Sir,

We have read the study on “Outbreak of polyarthritis with pyrexia in Western Rajasthan” by Kalla et al1 which has been attributed to brucellosis, with great interest. However, we have following comments on linking these patient’s symptomatology to brucellosis as there are numerous lacunae and/or scientific objections to it:

1. Marked cross-reactivity is known between seropositivity for B. melitensis and B. abortus and only serological testing is not adequate for establishing the identity of the causative organism2 as reported in this study.

2. Serologies for the diagnosis of brucella infection as done in this study by serum agglutination test (SAT) the Rose Bengal method, though sensitive, are marred by false positivity with infections like tularemia, yersiniosis and cholera vaccine.2

3. The nature of antibodies, IgG or IgM detected has not been elaborated in this report which helps in differentiating acute from chronic infection.

4. In endemic areas, where there is repeated exposure to the organism, only titres above 1:640 are significant2 and only 15 patients (%) in the above study had such high titres. It is expected in a study population consisting of shepherds with repeated exposure to cattle for the brucella titres to be high and it would have been relevant to take control sera from clinically normal individuals from the same population for comparison.

5. Only about 8% of patients had hepatosplenomegaly in this study though it is prominent manifestation of brucellosis and described in more than 30% of patients in most studies.3

6. High positivity of ASO titres in more than 40% of cases further puts the diagnosis of brucellosis in doubt as these cases may well have been cases of acute rheumatic fever.

7. Similar clinical profile is possible in a large number of viral arthritis and reactive arthritis following other infections and to be definitive about the cause being brucella needs further strong evidence. In absence of brucella organisms having been grown in culture, there is no strong evidence to support implication of B. melitensis or B. abortus in these cases.

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REFERENCES


Reply from the Author

Sir,

I thank Dr. J Muthukrishnan for his interest in our article and for his valuable comments. I agree that only serological test is not adequate for establishing the identity of causative organism, but as brucella organisms are difficult to grow, therefore serum agglutination test is widely used for the diagnosis of brucellosis.1 Secondly, brucella organism is considered class III pathogens based on hazard posed to laboratory workers which required biosafety level three in the laboratory which is not available in our setup.1 Therefore, we used serum agglutination test for the diagnosis of brucellosis.

There was no clinical evidence of tularemia and yersiniosis in our patient studied and to the best of our knowledge, cases of tularemia and yersinia has not been reported from this area. There was no history of cholera vaccine in our patients.

We detected IgM antibodies by serum agglutination test in our study, which indicate active infection.

For the diagnosis of brucellosis in endemic area titer more than 1:320 is sufficient.1 This study was carried out to establish the etiology and reason of the epidemic, which occurred in Kanwari village of Churu district, where 48 patients suffered from polyarthritis with pyrexia in the epidemic. Therefore sera of the clinically normal individual were not taken.

Recently, we have carried out a study in 100 persons of high-risk group for brucellosis and found titer less than 1:160 in 92% of the cases (Unpublished data).

Incidence of hepatosplenomegaly was found to be less in our study, which is in concordance with some other studies.3

Although ASO was positive in 40% cases, but they did not have typical migratory arthritis, which is almost always there in acute rheumatic arthritis.3 Secondly, these patients were having significantly high IgM antibrucella antibody titer (> 1:320) which is not possible in acute rheumatic arthritis. Therefore positive ASO titer in our cases was probably because of concurrent streptococcal infection (as our study was community based and because of the ubiquity of streptococcal infection and of the commonness of
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streptolysin O as an antigen of group A streptococci) however possibility of technical false positivity cannot be ruled out.

I agree that for confirmation of brucellosis, brucella culture is confirmatory but in clinical setting specifically in high-risk group, the diagnosis of brucellosis should always be kept even in the absence of bacteriological examination.

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REFERENCES