Leptospirosis - Evaluation of Clinical Criteria

Sir,

I read the article “Evaluation of Clinical Criteria for the Diagnosis of Leptospirosis” with interest. I would like to make the following comments.

1. Leptospirosis can be diagnosed only by serological tests as the clinical features are non-specific. By this criteria, only 22 of 118 (18%) patients had leptospirosis. By Faine’s criteria, 44 out of 118 patients were diagnosed to have leptospirosis. The positive predictive value of this test is 40.9%. This value can be increased by modification of Faine’s criteria (Part B). History of animal contact (Part B) is not essential for diagnosis of leptospirosis in developing countries. The more important epidemiological factors in our country are 1. Rainfall 2. Contact with contaminated environment. During rainfall, those who come into contact with water contaminated with infected rodents (or other animals) urine are prone to develop leptospirosis which is facilitated by environmental factors. It is impossible to trace the source of infection and any person can be infected, irrespective of direct contact with animals.

The following factors have to be introduced in part B of Faine’s criteria (which is more relevant to India).

1. Rainfall
2. Outdoor activities leading to contact with contaminated environment.

These factors should be given appropriate scores.

One hundred and eighteen patients with PUO in this study were seen during a one year period (Jan-Dec 1998). It would be interesting to note whether the 22 leptospirosis cases occurred during monsoon months (monthly break-up of these cases would be useful). What was the diagnosis in those cases in whom Faine’s criteria was positive, but MAT was negative? The group constituted nearly 59% of the cases.

2. Leptospirosis was diagnosed by Micro agglutination test (MAT). MAT is considered the gold standard test for serodiagnosis of leptospirosis. This is a complicated test and can be done only in specialized laboratories. Therefore ELISA IgM and Slide agglutination test (SAT) are considered to be more sensitive, simpler and adequate for diagnosis of current leptospiral infection. In fact they can replace MAT for diagnosis of current infection. But all these tests become positive only after 5 days.

Thus in the early stages of Infection (< 5 days), clinical features are very important to suspect leptospirosis utilizing Faine’s criteria (Part A). But the diagnosis should always be confirmed by ELISA (or) SAT.

I recommend that leptospirosis diagnosis can be done by making the following modification of Faine’s criteria.

<table>
<thead>
<tr>
<th>Faine’s Criteria</th>
<th>PART-A:</th>
<th>No Modification</th>
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<tbody>
<tr>
<td>PART-B:</td>
<td>(Include the following)</td>
<td></td>
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<tr>
<td>SCORE</td>
<td></td>
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<tr>
<td>1. Rainfall - 5</td>
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<tr>
<td>2. Outdoor contact with contaminated environment - 4</td>
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<td>3. Animal contact - 1</td>
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(The Score of 10 in part B has been split).

PART-C

1. (> 5 days)
   a) Positive ELISA/SAT
   b) MAT-Rising titres/High titres.

It should be realized that clinical data on milder (Anicteric) forms of leptospirosis are inadequate in our country and this can be made available only if simpler tests are done in small laboratories.

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REFERENCES

Reply from the Author

Sir,

We would like to thank Dr S Shivakumar for his views on our article. We appreciate his pertinent observations. We have tried to evaluate clinical criteria so as to determine its usefulness in appropriate settings and we agree that modifications of the criteria may also be evaluated for this purpose. We decided to evaluate the criteria without any modifications as they are internationally accepted. However, the advantage of one criterion over the can only be decided after an appropriate study is carried out. The suggested changes in the criteria merits its evaluation.

Patients who were positive by the criteria used by us but negative by MAT were not evaluated further as this was not the objective of our study. Because we were evaluating clinical criteria, we used MAT as gold standard.
Regarding the point raised by Dr. Shivakuamr on the usefulness of serological tests, we agree that slide agglutination test is easy and rapid. IgM ELISA although less cumbersome than microagglutination test (MAT) is costly. MAT is no doubt a cumbersome test that entails maintenance of a number of serovars. However, we do have a specialized leptospirosis laboratory and hence we preferred a test that is considered a gold standard for the diagnosis of leptospirosis.

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