of patients with acute brucellosis (69 families) who were referred to Boo-Ali Hospital (Southeast Iran) were enrolled in this study and serologically screened for brucellosis using the standard agglutination test (SAT). Titer of 160 or more was considered positive and diagnostic Titer of more than 160 in conjunction with compatible clinical presentation was considered to be highly suggestive of acute infection. Also, titer more than 160 in conjunction with 2 mercapto ethanol test >160 in asymptomatic group, were considered to be acute infection.

Out of the 69 families screened, 33 (48%) had two family members or more with serological evidence of brucellosis. Thirteen families had three family members with positive serologic tests, 10 families; four cases, seven families; two cases, two families; five cases and one family had six household members with serological evidence of brucellosis. Of the 378 family members screened, 77(20%) were seropositive and of these 47 (61%) were symptomatic. The majority (30(63.8%)) of the symptomatic family members had a high brucella titer (> 640) in comparison to three (10%) of the asymptomatic group (P<0.001). Acute brucellosis prevalence rate was 13.2%.

Our results showed that 20% of the family members of patients with acute brucellosis had serological evidence of brucellosis and 13.2% had acute brucellosis. In Alsubaie study from Saudi Arabia, among 178 family members 40 (23%) manifested various symptoms, 138 (77%) were asymptomatic, with an overall seroprevalence rate of 34 (19%). In recent study, acute brucellosis was diagnosed and treated in 18 (78%) of the symptomatic seropositive family members and in four (36%) of the asymptomatic seropositive family members and acute brucellosis prevalence rate was seen in 22 household members (12%). Other study from Southern Israel evaluated 86 family members of index cases of acute brucellosis. Symptomatic brucellosis was found in eight (9%) of the screened population and an additional 5 (6%) asymptomatic individuals were found to be seropositive. Peru study showed that in an endemic area in Lima (Peru), in 39 families with 232 members, there was a high rate of symptomatic infection (118/232, 50.9%). Symptomatic family members were more likely to be seropositive with a high titer in comparison to the asymptomatic members. This result was also seen in the present study.

In conclusion, screening family members of an index case of acute brucellosis will detect additional cases and improve the treatment, because, all family members may be exposed to a common source.

References

Circulating Phage Type of *Vibrio cholerae* in Mumbai

Dear Editor,

Cholera is endemic in several states of India. Bacteriophage typing is widely accepted as a convenient and highly discriminatory method of identifying epidemic strains of *Vibrio cholerae*. It is important to monitor the prevalent phage types within an area as introduction of new phage type may herald the onset of an outbreak.

A total of 200 faecal samples, received between January and December 2004 from patients with acute diarrhoea, were screened for the presence of *V. cholerae* by standard laboratory methods, and identified by routine biochemical tests and confirmed by slide agglutination with antisera obtained from National Institute of Cholera and Enteric Diseases, Kolkata. Antibiotic susceptibility test was done by Kirby Bauer disc diffusion method. The strains were then sent for phage typing to National Institute of Cholera and Enteric Diseases, Kolkata. A total of 41 (20.5%) *V. cholerae* were isolated. All the strains were biotype El Tor, serotype Ogawa and belonged...
to phage type 4. These strains were typable with new scheme and were clustered into type 27 (97.5%) and type 23 (2.4%) respectively. *Vibrio cholerae* isolates showed maximum sensitivity *in vitro* to gentamicin (92.6%) and chloramphenicol (87.8%) respectively (Table 1).

In spite of the complexities of the environment and a large migratory population in Mumbai, all the isolates belonged to Basu and Mukerjee phage type 4. Type 2 and 4 are the prevalent biotypes in India at present but consistently getting only a single biotype over the year was surprising. However, the new scheme was more discriminatory and could identify two circulating types. Even then the majority belonged to types 27 (97.5%) and only 2.4% were type 23. These were found in the month of August and were likely to be imported phage type into the city.

Though prevalence of multi-drug resistant *Vibrio cholerae* has been reported from parts of India, we did not encounter any such strains. A decrease in sensitivity to ampicillin and tetracycline was observed.

<table>
<thead>
<tr>
<th>Table: Antibiotic sensitivity pattern of <em>Vibrio cholerae</em> isolates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antibiotic</td>
</tr>
<tr>
<td>Gentamicin</td>
</tr>
<tr>
<td>Chloramphenicol</td>
</tr>
<tr>
<td>Ciproflox</td>
</tr>
<tr>
<td>Cefotaxime</td>
</tr>
<tr>
<td>Tetracycline</td>
</tr>
<tr>
<td>Ampicillin</td>
</tr>
</tbody>
</table>

References


*SD Turbadkar, DP Ghadge, S Patil, AS Chowdhary, R Bharadwaj*

Department of Microbiology, Grant Medical College (SDT, ASC, RB), Grant Medical College, Sir JJ Group of Hospitals, Mumbai - 4000 008, Maharashtra, India; Department of Microbiology (SP), Government Medical College and Department of Microbiology (DPG), BJ Medical College, Sassoon General Hospital, Pune - 411 001, Maharashtra, India

(email: <sarojdt@yahoo.co.in>)

Received: 19-08-06
Accepted: 07-01-07