Automated Identification Systems and *Burkholderia pseudomallei*

Low et al. (1) recently reported the failure of the Vitek 2 system (bioMérieux) to correctly identify *Burkholderia pseudomallei*. They also warned that thoughtless reliance on automation runs the risk that incorrectly identified organisms may be reported without question.

We recently had the opportunity to evaluate the new Phoenix (BD) automated identification and susceptibility testing system. Because melioidosis is an important infection in our region, we also tested strains of *B. pseudomallei* even though this organism is not in the Phoenix database.

Forty-seven nonduplicate strains of *B. pseudomallei* were used. The strains were all isolated from patients with compatible clinical histories. The strains were identified on the basis of their characteristic colony morphology on sheep blood agar and Ashdown’s medium, bipolar staining of gram-negative rods, oxidase positivity, resistance to aminoglycosides and polymyxin B, and amino acid decarboxylase and dihydrolase reactions. All were identified by the API 20NE test (bioMérieux) as *B. pseudomallei*, except one that was identified as *Chromobacterium violaceum*. The 16S rRNA gene sequence of this isolate was identical to that of *B. pseudomallei*.

The NMIC/ID-4 card was used in accordance with the manufacturer’s instructions. The results are shown in Table 1. The majority of *B. pseudomallei* strains were identified as *Burkholderia cepacia*. We were unable to discern a characteristic pattern of test results that would discriminate between the two species.

Although *B. pseudomallei* is not in the Phoenix database, we felt it was important to evaluate how the system identified this organism, as the characteristic colony morphology may only become apparent after more than 24 h of incubation. It is therefore not improbable that an attempt may be made to identify an unknown strain by using the Phoenix system if *B. pseudomallei* is not suspected in the first place. Laboratories that use the BD Phoenix system should be aware that it will identify *B. pseudomallei* as *B. cepacia* with a high confidence value (95 to 99%).

The Phoenix and NMIC/ID-4 cards were kindly provided by BD.

**TABLE 1. Identifications**

<table>
<thead>
<tr>
<th>Identification</th>
<th>No. of strains</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Burkholderia cepacia</em></td>
<td>34</td>
</tr>
<tr>
<td><em>Burkholderia</em>/<em>Ralstonia</em> spp.</td>
<td>6</td>
</tr>
<tr>
<td>None</td>
<td>4</td>
</tr>
<tr>
<td><em>Pseudomonas putida</em></td>
<td>1</td>
</tr>
<tr>
<td>CDC Vb-3</td>
<td>1</td>
</tr>
<tr>
<td><em>Stenotrophomonas maltophilia</em></td>
<td>1</td>
</tr>
</tbody>
</table>

REFERENCE


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