Sir,

Worldwide, the *Escherichia coli* serotype O25b-sequence type 131 (ST131) clonal group is emerging and represents an important cause of antimicrobial-resistant infections that range from uncomplicated cystitis to life-threatening bacteraemia. Nonetheless, there is only limited epidemiological information about this clonal group in Asia. In this study, we investigated the presence of this clonal group among 271 *E. coli* isolates recovered from a prospective cohort of female outpatients with uncomplicated cystitis in Hong Kong during 2006–08. The patient demographics and antimicrobial susceptibility of the isolates have previously been published. In brief, all patients had community-acquired infections. Prior urinary tract infection (UTI) history was present in 78 (28.8%) patients and 38 (14.0%) had been treated with antibiotics in the preceding 6 weeks. The major *E. coli* phylogenetic groups (A, B1, B2 and D) were determined by multiplex PCR. Subsequently, O25b-ST131 isolates were identified by PCRs for the O25b-ST131-specific single-nucleotide polymorphism in *pabB* and the O25b *rfb* variant.

The isolates were found to have the following phylogenetic group distribution: B2 (66.8%, 181/271), D (17.7%, 48/271), A (10.3%, 28/271) and B1 (5.2%, 14/271). Twenty-three of the B2 isolates were PCR positive for both pabB and O25b and were identified as O25b-ST131 isolates. All other isolates were PCR negative for the two targets. Thus O25b-ST131 accounted for 8.5% (23/271) of the total *E. coli* population. The 23 isolates were recovered from patients with residence in 13 of the 18 geographical districts in Hong Kong. The O25b-ST131 clonal group accounted for the following proportions of *E. coli* infections in the different age groups: 18–35 years (4.2%, 3/71), ≥65 years (9.3%, 12/134) and 36–50 years (6.5%, 7/107), 51–64 years (9.3%, 5/54) and ≥65 years (20.5%, 8/39). The proportion of O25b-ST131 isolates in patients aged ≥65 years was significantly higher than that among patients aged 18–64 years (P=0.004). O25b-ST131 isolates were significantly more likely than non-O25b-ST131 isolates to be ciprofloxacin resistant (69.6%, 16/23 versus 7.7%, 19/248; P<0.001), co-trimoxazole resistant (52.2%, 12/23 versus 28.6%, 71/248; P=0.02) and gentamicin resistant (52.2%, 12/23 versus 14.9%, 37/248; P<0.001). Table 1 shows that O25b-ST131 isolates accounted for 45.7% and 41.7% of the ciprofloxacin-resistant and dually ciprofloxacin- and co-trimoxazole-resistant *E. coli* populations, respectively. The

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**Table 1.** Contribution of O25b-ST131 to antimicrobial-resistant *E. coli* populations, 2006–08

<table>
<thead>
<tr>
<th>Resistance phenotype</th>
<th>Percentage with phenotype (%)</th>
<th>Percentage due to O25b-ST131 (%)</th>
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<tbody>
<tr>
<td>ESBL-positive</td>
<td>5.2 (14/271)</td>
<td>7.1 (1/14)</td>
</tr>
<tr>
<td>Cip&lt;sup&gt;a&lt;/sup&gt;</td>
<td>12.9 (35/271)</td>
<td>45.7 (16/35)</td>
</tr>
<tr>
<td>Sxt&lt;sup&gt;b&lt;/sup&gt;</td>
<td>30.6 (83/271)</td>
<td>14.5 (12/83)</td>
</tr>
<tr>
<td>Gen&lt;sup&gt;c&lt;/sup&gt;</td>
<td>18.1 (49/271)</td>
<td>24.5 (12/49)</td>
</tr>
<tr>
<td>Cip&lt;sup&gt;a&lt;/sup&gt; and Sxt&lt;sup&gt;b&lt;/sup&gt;</td>
<td>8.9 (24/271)</td>
<td>41.7 (10/24)</td>
</tr>
<tr>
<td>Cip&lt;sup&gt;a&lt;/sup&gt;, Gen&lt;sup&gt;c&lt;/sup&gt; and Sxt&lt;sup&gt;b&lt;/sup&gt;</td>
<td>64.6 (175/271)</td>
<td>2.9 (5/175)</td>
</tr>
</tbody>
</table>

Cip<sup>RS</sup>, ciprofloxacin resistant/susceptible; Gen<sup>R</sup>, gentamicin resistant/susceptible; Sxt<sup>RS</sup>, co-trimoxazole resistant/susceptible.

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incidence of O25b-ST131 among antimicrobial-susceptible (as defined by susceptibility to all of ciprofloxacin, co-trimoxazole and gentamicin) isolates was low (2.9%, 5/175). PCR and sequencing showed that the only extended-spectrum β-lactamase (ESBL)-producing O25b-ST131 isolate had bla<sub>CTX-M-14</sub>.

Our results showed that O25b-ST131 exhibited a wide range of susceptibility patterns. Similar to previous studies, our findings showed that O25b-ST131 isolates were often multidrug resistant and one was a CTX-M producer. However, the only ESBL-producing O25b-ST131 isolate was found to have bla<sub>CTX-M-14</sub> instead of bla<sub>CTX-M-15</sub>. Among blood culture E. coli isolates collected in 2007–2008, our recent work showed that O25b-ST131 accounted for 25.6% of the ESBL-producing isolates. All ESBL-producing O25b-ST131 isolates had bla<sub>CTX-M-14</sub> and none had bla<sub>CTX-M-15</sub>. As our previous studies revealed, the dissemination of bla<sub>CTX-M-14</sub> in O25b-ST131 isolates was associated with the acquisition of an epidemic pHK01 plasmid with FII replicon. In conclusion, this study showed that the O25b-ST131 clonal group is widely distributed among E. coli isolates causing community-acquired UTI in the region. The finding highlights the importance of clonal expansion in dissemination of antimicrobial resistance involving first-line drugs commonly used for treatment of UTIs.

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Transparency declarations
None to declare.

References