The Low Prevalence of Shiga-Toxin Production among Sorbitol Non-Fermenting Escherichia coli Urinary Tract Isolates Does Not Warrant Routine Screening

Sir.—Enterohemorrhagic strains of Escherichia coli (EHEC), which cause disease, at least in part, by producing shiga-toxins, have become a serious public health concern [1]. Although hemolytic uremic syndrome most commonly follows hemorrhagic colitis, it has been reported to occur rarely after urinary tract infections with EHEC [2, 3]. It has, therefore, been suggested that direct detection of shiga-toxin should be performed on E. coli isolates from urine specimens [2].

We collected sorbitol non-fermenting E. coli isolates from urine cultures for 1 year (December 1998 through December 1999) and examined the prevalence of shiga-toxin production in these isolates. Eighty-one isolates were collected from a varied patient population. The urine specimens were submitted from the Emergency Department (10), outpatient clinics (44), hospitalized patients (18), or our reference laboratory (9). Seventy-seven of the isolates were from women and 4 were from men. The isolates collected were present in the urine specimens in quantities of at least $>10^5$ cfu/mL. The organisms were identified and the sorbitol fermentation status determined by use of the Vitek Gram Negative Identification card (bio-Merieux, Hazelwood, MO). The isolates were tested for the presence of shiga-toxin 1 (stx1) and/or shiga-toxin (stx2) by using the Premier EHEC kit (Meridian Diagnostics, Cincinnati, OH) according to the manufacturer’s guidelines. None of the 81 E. coli isolates tested demonstrated the presence of stx1/stx2. A clinical stool isolate of E. coli O157:H7, from a patient with hemorrhagic colitis, was used as the positive control and consistently demonstrated the presence of shiga-toxin.

Rather than screening all E. coli urinary isolates for the presence of stx1/stx2, we screened only sorbitol non-fermenting E. coli isolates, because this EHEC phenotype (O157:H7) is relatively common in North America. We found a complete absence of shiga-toxin producing E. coli isolates in this selected population and, therefore, suggest that the routine screening of E. coli isolates from urine specimens for the presence of stx1/stx2 is not warranted. The screening of E. coli urinary tract pathogens for the presence of stx1/stx2 may be more fruitful if limited to isolates from patients with evidence of hemolytic uremic syndrome or, possibly, hemorrhagic cystitis.

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Deborah Wilson, Marion Tuohy and Gary W. Procop
Section of Clinical Microbiology, Department of Clinical Pathology, Cleveland Clinic Foundation, Cleveland, Ohio

References


Section of Clinical Microbiology, Dept. of Clinical Pathology, Cleveland Clinic Foundation, 9500 Euclid Ave., Cleveland, OH 44195 (procopp@ccf.org).

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Appropriate Antibiotic Treatment for Pneumonia

Sir.—We read with great interest the article by Gonzalez et al. [1] that described a high mortality rate among patients treated with vancomycin for pneumonia caused either by methicillin-resistant Staphylococcus aureus (MRSA; 50%) or by methicillin-sensitive S. aureus (MSSA; 47%). In contrast, the authors have found that in the subgroup of patients receiving cloxacillin treatment for pneumonia caused by MSSA, the mortality rate was zero [1]. Among intubated patients receiving cloxacillin for pneumonia caused by MRSA, we found a mortality rate of 2.6%; in episodes caused by MRSA and treated with intermittent administration of vancomycin (with serum level monitoring), we found a mortality rate of 54.5% [2]. Moreover, 2 of our patients developed an MRSA episode even though they were receiving treatment with vancomycin. Postmortem cultures performed for 3 of these patients showed that MRSA