**RESULTS & DISCUSSION**

Five-Year Results: Of the 228,116 urine specimens submitted for culture, a total of 18,759 (8.2%) were identified as ESBL producers by the double disk synergy method to identify ESBL, and disk diffusion with ciprofloxacin (CIP), nitrofurantoin (FM), norfloxacin (NOR) and trimethoprim/sulfamethoxazole (TMP/SMX) in accordance with CLSI guidelines. A subset (n = 201) was tested by PCR for ESBL encoding genes. Data were analyzed by age groups.

Results: Of the total of nontypeable 18,759 E. coli and 1,872 Klebsiella spp., 342 (1.8%) E. coli and 27 (1.4%) Klebsiella spp. were identified as ESBL producers by the double disk synergy method. The ESBL rates in E. coli increased over 5 years from 1.8% to 4.0% (P < 0.01) and from 0.4% to 1.7% in Klebsiella spp. (P < 0.01). Of the ESBL-producing strains, 82%, 11%, 11%, 23%, 22%, 20%, and 3% were isolated from patients who were 18–30, 31–50, 51–65, and >65 years of age, respectively. blaCTX–M, β-lactamases, and blaTEM and β-lactamases were present in 94%, 50%, 13%, and 44% of PCR-tested strains, respectively, with resistance to one or more of these enzymes found in 97% of the E. coli strains and 95% of the Klebsiella spp. Resistance to TMP/SMX were 62%, 5%, 26%, and 57%, respectively. There was a trend for higher resistance rates against CIP and NOR with increasing age.

Conclusions: There has been a steady increase in ESBL rates in community urinary isolates over the past 5 years, with a trend towards higher rates in older patients. ESBL-producing E. coli and Klebsiella spp. were often multi-drug resistant, but most isolates remained susceptible to FM. blaCTX–M was the predominant ESBL among urinary isolates in the community.

**INTRODUCTION**

Serious infections due to organisms harbouring extended-spectrum β-lactamases (ESBLs) have been reported worldwide with significant morbidity and mortality. Although ESBLs typically do not hydrolyze β-lactam antibiotics, recent reports suggest that treatment of infections due to ESBL-producing organisms with β-lactam antibiotics are inactivated. Dissemination of infections caused by ESBL-producing organisms is critical for guiding appropriate empiric antimicrobial therapy. There has been a steady increase in ESBL rates in community urinary isolates over the past 5 years, with a trend towards higher rates in older patients. ESBL-producing E. coli and Klebsiella spp. were often multi-drug resistant, but most isolates remained susceptible to FM. blaCTX–M was the predominant ESBL among urinary isolates in the community.

**METHODS**

Over a 5-year period, from April 1, 2006 to March 31, 2011, all positive urine cultures yielding ≥ 10⁵ CFU/ml of one or two organisms were investigated to obtain the isolate identification and its susceptibility to appropriate antimicrobial agents. Antibiotic-resistant isolates of E. coli and Klebsiella species were tested for ESBL production by the double disk synergy test, and their antimicrobial susceptibility profiles were determined for CIP, FM, NOR, and TMP/SMX, using the disk diffusion method, in accordance with current guidelines of the Clinical and Laboratory Standards Institute (CLSI). Among the ESBL-producing strains, a subset (n = 201) was tested for PCR by ESBL encoding genes (blaCTX–M, blaTEM, and blaSHV). Data were analyzed by patient age, which was defined according to previously described inclusion parameters (18–30, 31–50, 51–66, and >65 years of age).

**REFERENCES**

1. Pitout JD. 2010. **Clin Infect Dis.** 50, 51