

## CTX-M-27–Producing *Escherichia coli* of Sequence Type 131 and Clade C1-M27, France

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**To the Editor:** We read with great interest the Matsumura et al. paper describing extended-spectrum  $\beta$ -lactamase (ESBL) CTX-M-27–producing *Escherichia coli* of sequence type (ST) 131 clonal group, an emerging clade called C1-M27 (1). ST131 *E. coli* having *bla*<sub>CTX-M-27</sub> has been described in several countries. We observed an alarming increase of this clonal group in the fecal carriage of children in France (0% in 2010 to 65% in 2015 among ESBL-producing ST131 *E. coli*) (2).

We wondered whether this clonal group's expansion in France was attributable to the same clade (C1-M27). For that, we designed primers (M27PP1-B-F, 5'-TACTCC-GACTATGCGTTCAC-3'; M27PP1-B-R, 5'-CAAACCT-GCCCCTGATAGCG-3'; amplicon length, 1.5 kb) to amplify the insertion site of the structure comprising the direct repeat and prophage-like genomic island of *E. coli* PCN033, as previously described (1). PCR was performed on our recently described collection of 39 ESBL-producing ST131 *E. coli*, including 16 CTX-M-27–producing *E. coli*: 13 of subgroup O25b with *fimH30* allele and 3 of O16 subgroup with *fimH41* allele (2). Results showed that 81% (13/16) of the CTX-M-27–producing *E. coli* ST131 had the M27PP1 structure, similar to strain PCN033, and thus belong to the C1-M27 clade. Therefore, the C1-M27 clade found in Asia and America is also present in Europe in the fecal flora of young children. The 3 isolates belonging to the O16 subgroup with *fimH41* lacked M27PP1, suggesting that *bla*<sub>CTX-M-27</sub> might diffuse among non-H30 ST131 *E. coli* without this prophage-like genomic island. Finally, the non-CTX-M-27–producing ST131 *E. coli* of our collection were negative for M27PP1 elements.

Our results show that CTX-M-27–producing *E. coli* ST131 subgroup O25b with *fimH30* allele (one third of the

ESBL-producing ST131 carriage isolates) isolated from children in France belong to C1-M27 and that CTX-M-27–producing O16 strains display distinct genetic characteristics. Altogether, our data confirm the worldwide distribution of C1-M27 and its high prevalence in children in France.

### References

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## Antimicrobial Drug Resistance among Refugees from Syria, Jordan

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**To the Editor:** The Kassem et al. article regarding high rates of multidrug-resistant (MDR) bacteria colonizing Syrian children highlights the challenge of choosing empiric antimicrobial drugs to treat war-injured refugees from Syria (1). The findings mirror other reports (2,3) and our own experience in a charitable hospital in Amman, Jordan, which manages war-injured refugees from Syria. As part of a program of antimicrobial drug stewardship and infection prevention and control, empiric antimicrobial drug protocols were introduced. For antimicrobial

drug-naïve patients, the first-line choice for prophylaxis and treatment of skin and soft-tissue infections, including those involving open fractures, was a narrow-spectrum cephalosporin, as recommended by the Infectious Diseases Society of America guidelines (4); however, clinical failure was common.

We retrospectively reviewed the clinical microbiology data of 75 patients admitted in January 2015 with a history of suspected post-trauma infection. All these patients were first treated in field hospitals in Syria; 82.7% were male, and 33% were <16 years old. Twenty-four percent had multiple injuries, 20% had osteomyelitis, and 53% had metal prosthetic implants.

Thirty bacterial isolates were identified, mostly from deep wound swabs of 21 (28%) injured patients; 9/21 were infected with 2 isolates. Twenty-nine (97%) isolates were gram-negative bacteria: 10 *Proteus* spp., 10 *Escherichia coli*, 5 *Pseudomonas* spp., and 4 *Klebsiella* spp. Disk diffusion susceptibility testing showed that 20 (66%) isolates were MDR and 11 (36.7%) were carbapenem resistant.

The hospital laboratory did not have the capacity to perform further testing and confirmation of the resistant strains in line with international quality standards because they lacked suitable equipment and financial resources. Preventing further dissemination of MDR organisms among war-injured refugees from Syria at hosting healthcare facilities requires an effective surveillance system, investment in infection prevention and control, appropriate antimicrobial drug stewardship, and urgent laboratory capacity building inside Syria and in the refugee-host countries.

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## EID Podcast: Quiet Moment around the Campfire



Frederic Remington was an American painter, sculptor, illustrator, and writer whose works frequently featured cowboys, Native Americans, soldiers, horses, bison, and other iconic features of the rapidly vanishing American West. This issue's cover painting, commonly known as *The Cigarette*, was discovered in Remington's studio after his death. In this painting, four cowboys relax around a small outside a cabin. A plume of smoke rises toward the clear blue-green night sky flecked with a few stars, past a large skin hanging on the side of the cabin. The cabin does not overwhelm the painting but details such as the shadow under the roofline, the seams between logs, the softened edges of the structure, and the tautly stretched skin reveal Remington's deftness at rendering textures. His use of subdued colors punctuated by the reflected firelight underscores the quiet of the evening's respite following a long day's work.

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