C2-1102

bla$_{VIM-11}$ and *bla*$_{VIM-2}$ in a New Class I Integron Array Found in a Co-infection of *Enterobacter cloacae* and *Pseudomonas aeruginosa* From Argentina

S. A. Gomez[1,2], D. De Belder[1], D. Faccone[1], M. Anchordoqui[1], F. Pasteran[1], M. Giovanakis[3], C. Rey[4], C. Garbaz[5], M. Arias[6], A. Petroni[1], A. Corso[1];
[1]Serv. Antimicrobianos (Natl. Reference Lab.-NRL), Inst. Natl. de Enfermedades Infecciosas-ANLIS, Buenos Aires, ARGENTINA, [2]CONICET, Buenos Aires, ARGENTINA, [3]Htal. Británico, Buenos Aires, ARGENTINA, [4]Htal JC Perrando, Chaco, ARGENTINA, [5]Htal. Pirovano, Buenos Aires, ARGENTINA, [6]Htal. San Bernardo, Salta, ARGENTINA.

Background: Metallo-β-lactamase (MBL)-producing Gram-negative bacteria (GNB) is rare in NDM-free countries. The first occurrence in Argentina of MBL-producing enterobacterias was in 2008. Since then, four MBL-producing *Enterobacter cloacae* (Ecl) and one *Pseudomonas aeruginosa* (Pae) included in a co-infection with Ecl, were referred to the NRL for their characterization. **Objective**: To characterize MBL-producing GNB from Argentina. **Methods**: Clinical isolates Ecl (n=4) and Pae (n=1) with high level resistance to carbapenems and synergism with EDTA/SMA were submitted to the NRL. MICs were obtained by VITEK 2. PCR and sequencing were used to analyze the *bla*$_{MBL}$ variants and the surrounding genetic structure. *Xba*I-PFGE was done to stablish the genetic relatedness. Biparental conjugation and S1 nuclease digestion were performed to study the plasmid content and size. **Results**: Amplification for *bla*$_{vim}$ was obtained in all strains isolated from Buenos Aires City (BA) (2 hospitals), Chaco and Salta provinces (2 hosp). Ecl imipenem MICs were 1 to 8 µg/ml. Ecl isolates were not genetically related and 3/4 harbored *bla*$_{VIM}$ in novel Class I integron arrays: (1) *bla*$_{VIM-2}$-aacA4-aacA5; (2) *bla*$_{VIM-2}$-aacA4-[[Unable to Display Character: ∆]]aac(6´)-*bla*$_{OXA-2}$-[[Unable to Display Character: ∆]]ORFD; (3) *bla*$_{VIM-2}$-aadA7 (93% identity with GenBank AM087405.1) (4) *bla*$_{VIM-11}$- aac(6´)-II. *bla*$_{VIM-2}$ was transferred to *E. coli* J53 by conjugation in only case (1) and was associated to a 48Kb plasmid. Interestingly, in the co infection case, both Ecl (case 4) and Pae harbored identical integron structure but the *Pae* isolate had *bla*$_{VIM-2}$ instead of *bla*$_{VIM-11}$. **Conclusions**: To the best of our knowledge, this is the first report of a co-infection of Ecl harboring *bla*$_{VIM-11}$ and Pae with *bla*$_{VIM-2}$ in a novel class I integron array. Our results suggest that, in Argentina, *E. cloacae* seems to be the preferred GNB specie to harbor and disseminate horizontally MBLs like *bla*$_{VIM}$ in diverse class I integron structures.