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Silent Dissemination of Multiples Clones of IMP-1-Producing Carbapenem-Resistant Acinetobacter ursingii

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Abstract:
Background. Although *Acinetobacter baumannii* is considered to be the most clinically relevant *Acinetobacter* species, there are increasing reports of community and nosocomial infections caused by non-baumannii *Acinetobacter* species. *A. ursingii* was found to be a causative agent of bacteremia in susceptible hosts. Up to date, carbapenemase production in these species is still rare, limited to a single isolate producing bla_{IMP-1} from Japan. In Argentina, IMP-1 was limited to two *A. junii* isolated in 2006. We report the emergence and characterization of multiples isolates of IMP-1 producing *A. ursingii*
Methods. Bacterial identification was performed by MALDI-TOF (Bruker). Susceptibility testing was determined by agar dilution (CLSI). Phenotypic screening of MBL was performed by EDTA inhibition (0.4 mM) on routine MIC tests. Carbapenemase activity was detected by a biochemical test (BLUE-CARBA) and the MHT. *bla*s were assessed by PCR/DNA sequencing. Genetic relationship was evaluated by *Sma*I-PFGE.
Results. Four *Acinetobacter* strains were recovered from rectal swabs (as pure culture) belonging to 4 pediatric patients. They were hospitalized in the same ward but several days or months apart from each other. Strains were identified as *A. ursingii* by MALDI-TOF (the 3 most probable database matches were all consistent with *A. ursingii*). All strains harbored bla_{IMP-1}as first cassette in class 1 integron.

Strain Id.	Date of isolation (mm/dd/yy)	PFGE pattern	Imipenem/ Imipenem+EDTA MIC (mg/L)	meropenem/ meropenem+EDTA MIC (mg/L)	Aztreonam MIC (mg/L)	BLUE-CARBA	MHT
15845	06/05/13	A	4/0.12	16/0.25	8	+	+
15846	07/17/13	B	4/0.12	8/0.03	8	+	+
15976	10/01/13	C	4/0.25	16/0.5	16	+	+
17068	11/08/13	D	16/1	32/0.015	>256	+	+

Strains remained susceptible to sulbactam, gentamicin, quinolones, tetracyclines and colistin.
Conclusions This is the first report of IMP-1-producing *A. urisingii* outside Japan. Strains were unintended recovered while studying KPC rectal carriers. Our finding of strains with a heterogeneous clonal background suggests horizontal (and silent) mobilization of bla_{IMP-1}indicating that *A. ursingii* may act as an unsuspected reservoir of

carbapenemases and emphasize the importance of epidemiological surveillance of non-classic pathogens