

## Emergence of Genetically Unrelated NDM-1-Producing *Acinetobacter pittii* Strains in Paraguay: first report in the Americas

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**Background:** NDM is a carbapenemase that is being increasingly reported worldwide. Up to date, NDM producers in Latin America are scarce (Guatemala, Mexico and Colombia) and associate to species of *Enterobacteriaceae*. We report the emergence of NDM-1 producing *Acinetobacter* in Paraguay. **AIM:** to characterize two NDM-producing *Acinetobacter* strains. **Methods:** Identification was performed by MALDI-TOF (Bruker). Susceptibility testing was determined by agar dilution (CLSI). Phenotypic screening of MBL was performed by EDTA inhibition on routine susceptibility tests and by MHT. Detection of VIM, IMP, SPM, NDM, OXA-51, OXA-58 and OXA-23 genes was done by PCR/DNA sequencing. Clonal relationship was evaluated by *Apal*-PFGE. **Results:** M15274 was recovered from CSF (Sep. 2012) of a 7 y.o. patient with diagnosis of meningitis, who died in Jan. 2013. M15373 was isolated from blood (Nov. 2012) of a 18 m.o. patient with diagnosis of leukemia who was discharged alive on Dec. 2012. Both patients shared the oncology ward, 4 months apart from each other. Strains were unambiguously identified as *A. pittii* by MALDI-TOF (ten of the top ten best matches). Both strains showed synergism between EDTA and carbapenems and were positive for carbapenemase production by MHT. Strains were resistant to imipenem and meropenem (MICs  $\geq$  256 mg/L) but remained susceptible to amikacin, gentamicin, ciprofloxacin, colistin and tigecycline (FDA criteria). Strains carried only *bla*NDM-1 gene and were unrelated by PFGE ( $>10$  bands of difference). Additionally, further characterization of 23 contemporary carbapenem-resistant *Acinetobacter* spp. (Nov. 2012 - Mar. 2013) revealed lack of MBL production and matched with *A. baumannii* by MALDI-TOF. **Conclusions:** This is the first report of NDM-producing *A. pittii* in the Americas. MBL had not been detected in this Hospital prior to the discovery of NDM. Interesting, patients had no history of traveling. Epidemiological links between both cases were not evident. Remarkably, up to date no further NDM producer neither *A. pittii* has been detected in the clinical setting, indicating that these genes or isolates did not spread in the hospital.