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Prevalence of Plasmid Mediated Quinolone Resistance Genes in Tribe *Proteeae*: First Report of *qnrD* in the Americas

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Background: The plasmid-mediated quinolone resistance (PMQR) gene *qnrD* was firstly described in 2009 in 4 *Salmonella enterica* isolates from China. To date, this gene has been reported in a few countries of Europe and Asia, mainly in tribe *Proteeae*. Our aim was to investigate the presence of PMQR genes in these species. **Methods:** We studied 82 isolates of *Proteus* spp. (65), *Morganella morganii* (Mmo, 14), and *Providencia stuartii* (Pst, 3) consecutively collected during a 5-day period (2007) in 66 hospitals of WHONET-Argentina [Buenos Aires City (BAC) and all the 23 Provinces]. Detection of *qnrA, -B, -C, -D, -S* and *aac(6´)-Ib-cr* genes was done by PCR, and *qepA* by dot blot. Plasmid characterization was done by reverse PCR and DNA sequencing. Antimicrobial susceptibility tests were done by disk diffusion and agar dilution under CLSI guidelines. Detection of extended spectrum β-lactamases (ESBL) was done by disk diffusion test of the synergy between cefotaxime/ceftazidime and clavulanic acid. **Results:** the percentages of susceptibility by disk diffusion to nalidixic acid (NAL) and ciprofloxacin (CIP) were, respectively: *Proteus* spp., 66% and 69%; Mmo, 50% and 71%, and Pst, none and 1 isolate. *qnrD* was the only PMQR gene found in 2 of the 82 analyzed isolates (2.4% of prevalence in *Proteeae*): *Proteus mirabilis* Q1084 and *Proteus vulgaris* Q5169 [MICs (µg/ml) were: NAL, >128 for both; CIP, 64 and 4, respectively]. These phenotypes suggested the additional presence of mutations in topoisomerase II-enconding genes. The prevalence of PMQR genes in *Proteus* spp. was 3.1%. *P. mirabilis* Q1084 was isolated from a urine specimen of a 2-year-old patient in a hospital from BAC and showed an ESBL phenotype. *P. vulgaris* Q5169 was isolated from a surgery wound specimen of a 65-year-old patient in a hospital from Rosario, Province of Santa Fe, and was ESBL negative. The *qnrD* genes were located in 2 similar small plasmids of about 2.7 kb: *P. vulgaris* Q5169 harbored a plasmid almost identical (2 mutations of difference) to pDIJ09-518a previously described in a *Providencia rettgeri* isolate from France while *P. mirabilis* Q1084 had a new variant of that plasmid (98% identity). **Conclusions:** The prevalence of PMQR in tribe *Proteeae* was very low and *qnrD* was the only gene detected.This is the first report of *qnrD* in the Americas.