

Poster Title: Novel Col3M *bla*_{NDM}-harbouring Plasmids in Clinical *Providencia rettgeri* Isolates from Argentina

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B: The first cases of *bla*_{NDM} in Argentina were detected in genetically related *P. rettgeri* (Pre) clinical isolates recovered from two institutions in Buenos Aires city along 2013. These were resistant to most antibiotics and susceptible only to aminoglycosides and harbored *bla*_{NDM-1} in different sized plasmids (pL). In Pre, *bla*_{NDM-1} is usually harbored on Tn125 variants located in IncH1B or IncFII pL. To the best of our knowledge, Col3M pl have never been associated with *bla*_{NDM}.

AIM: To analyze the complete sequence of *bla*_{NDM-1}-harbouring pL detected in the first three Pre clinical cases from Argentina.

M&M: Pre15268, Pre15758 and Pre15973 were conjugated with *E. coli* J53 sodium azide resistant as acceptor. Estimation of pL number and sizes was done with S1 nuclease and Southern blot hybridization with *bla*_{NDM} probe. Genomes were sequenced with Illumina MiSeq using Nextera XT kit and with Oxford Nanopore Technologies MinION. Reads were assembled with Unicycler and contigs annotated with Prokka. Replicon typing, resistance genes, mobile elements and *bla*_{NDM-1} immediate environment were analyzed with bioinformatics tools: Center for Genomic Epidemiology, PATRIC, BLAST, ISfinder and OriTfinder.

R: Biparental conjugation was unsuccessful. *bla*_{NDM-1} was detected in pL of ca. 320 kb (p15268A_320) in Pre15268, 210Kb (p15758B_210) in Pre15758 and 225kb (p15973A_225) in Pre15973. The replicon type of *bla*_{NDM-1} pLs was Col3M. The number and type of *tra* genes was incomplete in the three *bla*_{NDM-1}-pL. In addition, *oriT* was not found in the three pL, explaining the negative conjugation results. The number of resistance genes were: 17 (p15268A_320), 9 (p15758B_210) and 10 (p15973A_225). All pL harbored *bla*_{NDM-1}, *bla*_{OXA-1}, *aac*(6′)-*Ib-cr*, *aph*(3′)-*Ia*, *aph*(3′)-*VI*, *arr-3*, *catB3*, *qnrD1* and *sull*. p15268A_320 and p15973A_225 harbored *bla*_{PER-2}. p15268A_320 harboured *aph*(3′)-*Ib*, *aph*(6)-*Id*, *floR*, *mph*(E), *msr*(E), *tet*(A), *sul2*. *bla*_{NDM-1} was flanked by two ISKox2 instead of ISAbal25: ISKox2 - ISAbal14 - *aph*(3′)-*VI* - ISAbal25 - *bla*_{NDM-1} - *ble*_{MBL} - *deltaiso* - *tat* - *cutA1* - *groES* - truncated *groEL* - ISKox2. In p15758B_210, one ISKox2 (downstream form *groEL*) was truncated. Additionally, these plasmids harbored one class 1 integron (*aac*(6′)-*Ib-cr*, *bla*_{OXA-1}, *catB*, *arr-3*).

C: To the best of our knowledge, this is the first report of Pre-harboring *bla*_{NDM-1} in an atypical genetic context (ISKox2) and located in an unusual pL. Further studies are required to understand the distribution of *bla*_{NDM-1}-Col3M pLs in Argentina.