**Phenotypic and genetic characterization of successive *Pseudomonas aeruginosa* isolates obtained from the same cystic fibrosis patient**

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**BACKGROUND**
*Pseudomonas aeruginosa* (PA) is the major causing agent of infections in cystic fibrosis (CF) patients. Different adapted morphotypes are found in chronic infections.

**Objective:** to characterize PA successfully isolated from the same CF patient over a 4-years period (2012-2015).

**MATERIAL/METHODS**
- **17 PA isolates:** 5 small colony variant (SCV) and 12 mucoid.
- **Molecular typing:** PFGE and MLST1,2.
- **Antimicrobial susceptibility:** to 15 antibiotics was performed by disk-diffusion; AmpC hyperproduction was detected in all isolates. PAGN increased susceptibility to ciprofloxacin in all isolates, and to imipenem only among SCVs. Two class 1 integrons were detected (Fig 1).
- **Virulence genes:** the presence and expression of studied genes in Table 2.  
- **Antimicrobial resistance mechanisms:** to 15 antibiotics was performed by disk-diffusion; AmpC hyperproduction was detected in all isolates. PAGN increased susceptibility to ciprofloxacin in all isolates, and to imipenem only among SCVs. Two class 1 integrons were detected (Fig 1).
- **Growth and phenotypic assay results are shown in Fig 2 and Fig 3, and expression of studied genes in Table 2.**

**RESULTS**
- All isolates had closely related PFGE patterns and belonged to ST412.
- Antimicrobial resistance and molecular characterization of porin OprD were determined in all isolates. PAGN increased susceptibility to ciprofloxacin in all isolates, and to imipenem only among SCVs. Two class 1 integrons were detected (Fig 1).
- Growth and phenotypic assay results are shown in Fig 2 and Fig 3, and expression of studied genes in Table 2.

**CONCLUSIONS**
- All isolates showed the same ST and closely related PFGE patterns; however important phenotypic and genotypic differences were found among them.
- Two main groups (SCV and mucoid) were identified.
- The adaptation and persistence of PA during chronic infections result in numerous variants which can complicate the treatment and diagnosis of CF patients.