

# Changing drug resistance profile in *Pseudomonas aeruginosa* infection among HIV patients from 2010–2017: A retrospective study

Author

*Chinnambedu Ravichandran Swathirajan, Marimuthu Ragavan Rameshkumar, Sunil Suhas Solomona, Ramachandran Vignesh, Pachamuthu Balakrishnan*

**Keywords:**

HIV *Pseudomonas aeruginosa* Antibacterial resistance Imipenem

Abstract

**Objectives:** *Pseudomonas aeruginosa* is an important aetiological agent causing pneumonia, urinary tract infections and bacteraemia. High antibiotic use in nosocomial settings and for immunocompromised conditions results in increasing multidrug resistance. This study analysed the antimicrobial resistance profile of *P. aeruginosa* isolates in an HIV setting. **Methods:** A total of 7386 clinical specimens were collected from HIV patients attending YRG CARE from 2010–2017. *P. aeruginosa* isolated from clinical specimens were identified conventionally, and antimicrobial susceptibility testing was performed by the Kirby–Bauer disk diffusion method. **Results:** A total of 260 *P. aeruginosa* strains were isolated, with 165 *P. aeruginosa* (63.5%) being isolated from hospitalised patients. A higher incidence of *P. aeruginosa* infection (25.8%) was observed in 2017, and most of the *P. aeruginosa* were isolated from sputum specimens (57.3%). A high level of resistance was noted to ceftazidime (49.6%), followed by ticarcillin (41.5%). Imipenem and meropenem resistance was observed in 15.0% and 16.9% of *P. aeruginosa* isolates, respectively. A high rate of imipenem resistance was noted in 2016 (46.2%) and a high rate of meropenem resistance was noted in 2017 (20.5%). An increasing resistance rate of *P. aeruginosa* was observed against aztreonam, cefepime, levofloxacin, meropenem, piperacillin, piperacillin/tazobactam, ticarcillin and tobramycin from 2010 to 2017. **Conclusion:** A constant increase in drug-resistant *P. aeruginosa* isolates from HIV patients was observed from 2010 to 2017. Findings from this study urge the need for periodical monitoring and surveillance of the *P. aeruginosa* resistance profile, especially in hospitalised and immunocompromised patients in resource-limited settings