



Rise in Drug-Resistant *Pseudomonas aeruginosa* Infections in Intensive Care Units

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Pseudomonas aeruginosa is a gram-negative infectious agent to human remains associated with several diseases including urinary tract infections, respiratory system infections, dermatitis, soft tissue infections, bacteremia, bone and joint infections, gastrointestinal infections. The antibiotics use lead to control of bacterium growth and disease effectively. Recent studies have shown that new cases of *Pseudomonas aeruginosa* infections with higher frequency are reported worldwide. The growing concern worldwide is acquired drug resistance in *Pseudomonas aeruginosa* and the prevalence of such drug-resistant pathogens in intensive care units. The entire microbial world is evolved with unique genome plasticity and capacity to acquire additional gene/s as per need, including the drug resistance gene. It is now evident that extensive use of antibiotics and antimicrobial agents for a longer duration of time stimulated such pathogens for adaptation. The antibiotic pressure is selection criteria in microbial communities to alter genome by acquiring foreign DNA and or mutation in the genome itself. The entire microbial world is unique in having effective and robust enzyme/s capable of degradation of antibiotics and antimicrobial agents. Such capacity allows microbes to grow in harsh conditions as well. This is one of the possible mechanisms behind the rise of new cases of *Pseudomonas aeruginosa* in Intensive Care Units.

Pseudomonas aeruginosa is a common infection to human remains associated with including urinary tract infections, respiratory system infections, dermatitis, soft tissue infections, bacteremia, bone and joint infections, gastrointestinal infections. Recent findings have shown that a large number of infections in patients are Intensive Care Units driven. These results demonstrate that *Pseudomonas aeruginosa* is capable of grown and colonize in Intensive

Care Units; instruments, beds, and other accessories. A large number of comparative analyses between inpatients and outpatients for *Pseudomonas aeruginosa* infections have shown that most of the infections are hospital driven and Intensive Care Units contribution is most substantial. These results in a devastating scenario and posed a new level of threat to the healthcare system. The inpatients in Intensive Care Units are prone to such infections as they remain on risk/co-morbidity. The nosocomial bacterial infections in Intensive Care Units require more cautions not only in diagnosis but also treatments. To tackle growing cases of *Pseudomonas aeruginosa* infections in Intensive Care Units, the clinical uses of antibiotics must club with a new generation diagnosis. The selective use of antibiotics reduces the emergence of drug-resistant microbial species [1-6].

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