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Trends of antimicrobial resistance in gram-negative isolates from an ICU over 3 year

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To study the changing patterns of antimicrobial resistance in gram-negative *Bacilli esp. Escherichia coli, Klebsiella pneumoniae, Pseudomonas aeruginosa and Acinetobacter* species from a 37 bedded ICU of a private hospital. The antibiotic susceptibilities were determined by using the Vitek-2 system. A total of 13410 clinical samples were screened over a period of 3 years, among which 16.77 percent (2250 isolates) were culture positive. In recent years there has been an increased incidence of extended-spectrum β - lactamase (ESBL). The ESBL producing *Escherichia coli* and *Klebsiella pneumoniae* has shown an increase in resistance to the tune of 80-90% in three years. The prevalence of resistant strains of *Acinetobacter* species and *Pseudomonas aeruginosa* has shown an increase in Imipenem and Meropenem resistance at the rate of 75-80%. Antibiotic resistance has shown an increase in gram-negative pathogens and thereby has created a significant problem in choosing the right antibiotic for empirical usage. The rise in resistance has left little choice for the clinicians to select antibiotics. *Klebsiella pneumoniae* ESBL and *Escherichia coli* ESBL have become dominant organisms in ICU. Piperacillin + Tazobactam, Imipenem and Amikacin have decreased sensitivity against Enterobacteriaceae. Old antibiotic compounds such as Polymyxins, Fosfomycin and Aminoglycosides are re-emerging as valuable alternatives for the treatment of ESBL producing bacteria. Cases of MDR. *Escherichia coli* and *Klebsiella pneumoniae* have increased in recent years as the most frequent cause of hospital-acquired infections.

Biography

Sachin H Jain has completed his Masters in Microbiology at 25 years from Seth G.S. Medical College and KEM Hospital, Mumbai India. He worked in Sydney, Australia before moving back to Mumbai and worked as Head Microbiologist and Infection Control Officer at Saifee Hospital, Mumbai for 9.5 years and now as Head Microbiology and Infection Control Officer at Reputed Hinduja Hospital, Mumbai India. He has delivered many lectures in India and China, Sydney and Vitebsk.

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