**ANTIMICROBIALS - I**

## NEWER ANTIBIOTICS

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**Abstract:** *Antibiotics have revolutionised medical practice and their over zealous use has resulted in increased incidences of emerging resistant organisms. As newer molecules were identified especially for Gram negative organisms, many clinical trials were conducted. However, only few trials included children between 0 and 18 of age. Newer beta lactamase inhibitors were also recognized and they are first generation beta lactamase inhibitors with beta lactum rings, the second generation beta lactamase inhibitors with diaxabicyclooctane molecules and third generation beta lactamase are boronic acid compounds. Liberal and indiscriminate use of antibiotics have resulted in emergence of antibiotic resistance in the bacteriae with newer mechanisms, which in turn led on to higher medical costs and the increased mortality. Hence, there is a need for newer antibiotics and this article deals with antibiotics found in the last two decades and their uses.*

**Keywords:** *Antibiotics, Beta lactamase inhibitors, Synthetic aminoglycoside, Tetracyclines, Siderophore, Plazomycin, Ervacycline, Cefiderocol, Glycopeptides, Oxazolidinones.*

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### Points to Remember

- ***Microbiological identification of infections should be the norm and newer drugs should not be used empirically.***
- ***Excellent new drugs are available for ESBL producers.***
- ***In India, carbapenamase producers are predominantly NDM and OXA-48 and to target this mechanism of resistance, more effective drugs are needed.***
- ***Majority of the trials were conducted only in adults hence more data on the pharmacokinetics / pharmacodynamics of drugs are needed in children including newborns.***
- ***Newer antibiotics should be reserved only for infections where there are limited therapeutic options.***

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