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A COMPARITIVE STUDY ON THE EFFICACY OF AMINOGLYCOSIDES AND FLUOROQUINOLONES ON *PSEUDOMONAS* SPECIES

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ABSTRACT

In the present investigation culture sensitivity reports were taken for a period of six months from October 2011 to March 2012. Out of 107 cases of positive growth of various cultures like urine, pus, sputum, blood, from 33 samples of *Pseudomonas* were isolated. 23 cultures of sputum and 10 cultures of urine were taken out of 107 cases of positive growth of various cultures like urine, pus, sputum, blood, 33 cases of *Pseudomonas* were isolated. 23 cultures of sputum and 10 cultures of urine were taken According to sensitivity pattern all the 33 *Pseudomonas* cases were sensitive to Aminoglycosides, Amikacin and Gentamicin. 28 cases of *Pseudomonas* were positive to Levofloxacin and 5 cases were positive to Ofloxacin.

Keywords: Aminoglycosides, Amikacin, Gentamicin, *Pseudomonas species*

INTRODUCTION

Pseudomonas is Gram negative, aerobic, rod-shaped bacterium, most commonly affecting immune-compromised patients **[1]**. Infection can affect many different parts of the body. It is isolated from wound infections, burns, septicemias, and pneumonias. Infections caused by *Pseudomonas* is a clinical challenge due to the bacteria's intrinsic as well as remarkable ability to acquire antibiotic resistance **[2]**. Antimicrobial agents with reliable anti-pseudomonal activity that are commonly prescribed are limited to only a few agents in three major pharmacological Classes: Lactams, Fluoroquinolones (FQs) and Aminoglycosides **[3]**. Among these, the Fluoroquinolones provide the only available oral treatment option. Fluoroquinolones are bactericidal drugs. Aminoglycosides are

valuable drugs for the management of serious *Pseudomonas* Infections **[4]**. Among Aminoglycosides Gentamicin, Tobramycin and Amikacin are more effective for *Pseudomonas* infections. Sensitivity and resistance patterns to pseudomonal isolates were established in antibiotic policy at tertiary care hospital.

MATERIALS AND METHODS

Culture sensitivity reports were taken for a period of 6 months from October 2011 to March 2012. Out of 107 cases of positive growth of various cultures like urine, pus, sputum, blood, 33 samples of *Pseudomonas* were isolated. 23 cultures of sputum and 10 cultures of urine were taken. According to sensitivity pattern all the 33 *Pseudomonas* cases were sensitive to Aminoglycosides, Amikacin and Gentamicin. 28 cases of *Pseudomonas* were positive to Levofloxacin and 5 cases were positive to Ofloxacin.

RESULTS

Number of cases of *Pseudomonas* 33 (out of 107 positive growth). Number of cases sensitive to Aminoglycosides (Amikacin and Gentamicin) 31 (100%). Number of cases sensitive to Fluoroquinolones (Levofloxacin) 28(85%) Ofloxacin 5 (15%) **(Figure 1)**.

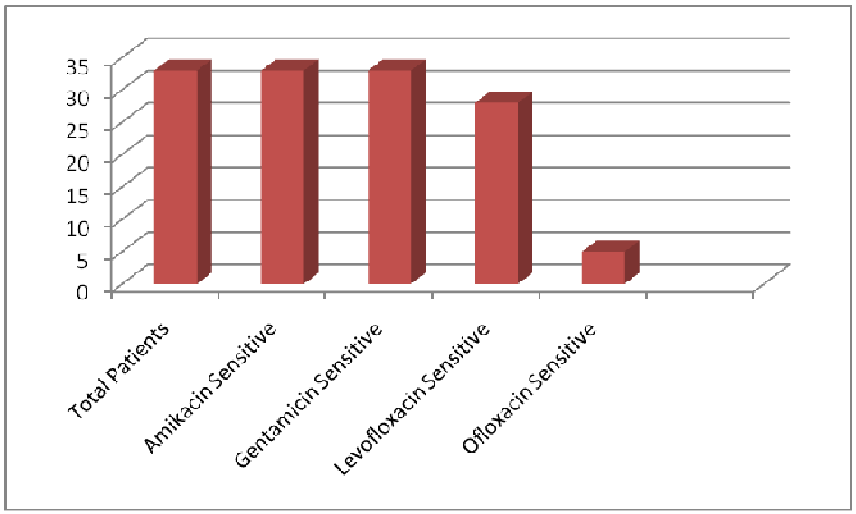

Figure 1: Sensitivity Pattern

CONCLUSION

The above data concludes that Aminoglycosides are more efficacious than Fluoroquinolones on *Pseudomonas* species. Amikacin and Gentamicin showed equal sensitivity pattern whereas Levofloxacin is more sensitive than Ofloxacin on *Pseudomonas* Species. Aminoglycosides are better choice of drugs to treat *Pseudomonas* infections.

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