

Random Quantitative Assessment of Culture and Sensitivity Pattern in Meropenem, Imepenem and Levofloxacin to Pseudomonas Aeruginosa in Cases of Burns

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ABSTRACT

Total two hundred burn wound swabs of all admitted patients over a period of six months were analyzed in this study to observe the culture and sensitivity pattern of Meropenem, Imepenem and Levofloxacin to pseudomonas aeruginosa and it was found that 100 swabs were positive for pseudomonas aeruginosa and levofloxacin came out as a suitable antibiotic with significant sensitivity and comparatively less resistance than Meropenem which is a good antimicrobial agent for pseudomonas aeruginosa in burn wounds.

INTRODUCTION

Pseudomonas aeruginosa is the most prominent bacteria found in the wounds of burns and it is the main bacteria to cause sepsis in the burn patient and because of its notorious behavior to turn resistant to all possible antibacterial compound available so far it is main factor for worry while treating the burn patient.

Meropenem and Imepenem are antimicrobial preparations widely used for pseudomonas aeruginosa and they are costly and available in intravenous use preparation only.

Levofloxacin is a synthetic antibacterial agent of the fluoroquinolone class and it is available in intravenous and oral preparations at an affordable cost.

In this analysis, Levofloxacin was found to be one among the three top sensitive antibacterial compounds for pseudomonas aeruginosa in burn patients.

MATERIAL AND METHODS

Total 200 swab report of patients were analyzed in this study. All these patient were indoor patients and were having burns wound in the range of 20 to 50% of TBSA. For every patient wound swabs

were send to lab twice a week on regular basis all these culture and sensitivity reports for a period of six months (Jan-June) were studied. Only culture and sensitivity pattern for pseudomonas aeruginosa was noted.

Swabs were taken randomly from different areas of body as per the burn distribution.

Selected patients were of age group five to sixty years.

The study includes both sexes.

Pregnant women were excluded from the analysis data.

RESULTS

Out of 200 swabs only 100 swabs were positive for pseudomonas, aeruginosa.

Table (1): Sensitivity pattern for pseudomonas aeruginosa.

	Meropenem	Imepenem	Levofloxacin
Jan.	4	1	8
Feb.	9	5	4
March	3	1	1
April	3	13	3
May	3	12	1
June	3	5	4

Numbers given in Table (1) are the numbers of swabs positive for pseudomonas and sensitive to respective antimicrobial agent.

Table (2): Resistance observed (Mean days).

Antibiotic	Meropenem	Imepenem	Levofloxacin
Resistance in mean days	After 8 days	After 12 days	After 10 days

After noting the first sensitivity reports, the next first resistant reports for the pseudomonas aeruginosa in the same individual patient were noted and the mean duration in days were calculated (Table 2).

DISCUSSION

Pseudomonas aeruginosa is a gram negative aerobic bacteria found predominantly in burn wound and main causative factor for sepsis in burns.

Meropenem, Imepenem are established antipseudomonal agents in the treatment of burns.

The analysis support that Levofloxacin which is readily available and inexpensive antimicrobial agent has got a significant antipseudomonal sensitivity and comparatively less resistance and can be used in an event of infection with *p.aeruginosa* in cases of burns.

In conclusion: Imepenem remains as a preferred drug for *p.aeruginosa*.

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