Brief report

Antibiotic Treatment Failure in Chronic Nosocomial Wound Infections

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In recent decades, *Pseudomonas aeruginosa*, *Staphylococcus aureus*, *Escherichia coli*, *Klebsiella spp*, *Proteus spp*, etc. have emerged as the most notorious nosocomial pathogens. Their ability to develop resistance to antimicrobial agents make them main culprit as aetiological agents in numerous infections especially in nosocomial infections. Their capabilities to colonize rapidly in a compromised host make them very difficult to deal with. In such an eventuality antibiotics stand ineffective.

As has been observed in recent times, nosocomial infections have posed grave challenge to the clinicians. This problem can be attributed mainly to the growing resistance to a wide spectrum of antibiotics.

Here is an interesting observation on 11 cases where *P. aeruginosa, Staphylococcus aureus, Escherichia coli, Klebsiella pneumoniae* and *Proteus vulgaris* were the causative organisms, susceptible to antibiotics, but the use of specific antibiotic did not yield any results.

In a case of pseudomonal wound infection, the culture and susceptibility study had shown *P. aeruginosa* susceptible to ceftazidime. Based on the report, the patient was given injection ceftazidime 500 mg eight hourly for seven days but still the wound didn't respond. Reculture and repeat susceptibility studies after seven days again revealed susceptibility to ceftazidime with *P. aeruginosa* as the culprit bacteria. Similar observations were made in 10 other cases of nosocomial wound infections caused by *Pseudomonas aeruginosa, Staphylococcus aureus, Escherichia coli, Klebsiella pneumoniae*, and *Proteus vulgaris* with susceptibility to different antibiotics but no response to administration of the indicated antibiotics.

Though resistance to antibiotics is the chief reason for the treatment failure in many cases. Our observations are interesting where treatment failed though the isolates were susceptible to the administered antibiotics. The reason for treatment failure could be different like inappropriate and inadequate antibiotic therapy, drug-drug and drug-patient interaction, poor patient compliance or poor diffusion of antibiotic due to clotted fibrin and so on. At times chronic granulation tissue leads to inadequate tissue levels of antibiotics so the bacterial levels in granulating wounds may not be tackled properly (1-3).

These results indicate that systemic antibiotic therapy may not have practical and potential value in the treatment of nosocomial wound infections without systemic symptoms. So the local wound care in such cases remains the backbone of treatment instead of the systemic antibiotic therapy, especially in chronic wound infections.

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