

## Bacterial pathogens from wound infection and their susceptibility against different antibiotics

G. PERUMAL\*, R. RAJESWARI AND P. PARANICHANDIRAN

Department of Microbiology, Kandaswamy Kandar's College, Velur, NAMAKKAL (T.N.) INDIA

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The present study pertains the isolation of aerobic microorganisms from wound infection and to study its antibiogram. From the collected 20 wound samples 10 isolates were identified. *Pseudomonas aeruginosa* (24%) was the predominant isolate followed by *Staphylococcus aureus* (20%) and *Escherichia coli* (20%). Antibiogram study reveals that all the isolates were sensitive to Ciprofloxacin and Sporicidin.

Key words : Wound Pathogenic Bacteria, Antibiogram Endogenous and Exogenous.

### INTRODUCTION

Wounds are injuries to body tissues caused by disease processes or events such as burns, punctures, and human or animal bites. Wounds or abscesses also occur within body tissues as a result of surgery or dental procedures. Wounds become infected when microorganisms from the outside environment, or from within the person's body, enter the open wound and multiply. A wound that is red, painful, swollen, and draining pus is probably infected.

Nearly 10 million patients with traumatic wounds are treated annually in the United States. Infections of the skin and skin structures in these patients frequently occur in surgical wounds, burns, and other exposed tissues (Pruitt *et al.*, 1998). These infections are responsible for significant human mortality and morbidity and often result in prolonged hospital stays and/or increased health care costs (Green and Wenzel, 1977). Both gram-negative and gram-positive microorganisms cause these infections.

Infectious disease is the number one cause of death accounting for approximately one-half of all deaths in tropical countries. Besides, incidents of epidemics due to drug resistance, resistant microorganisms pose enormous public health concerns (Jensen *et al.*, 1996 and Guyoi, 1996).

Perhaps it is not surprising to see that infectious disease mortality rates due to drug resistant microbes are actually increasing in developed countries. Wound infection may be endogenous or exogenous. Endogenous or auto infections are caused by organisms that have leading to commensal infection. Bacteriological studies reveals that *Staphylococcus aureus*, a member of normal flora of skin are associated with uninflamed wounds

(Topley Wikllson, 1984). Microorganisms can enter body through cuts, abrasions and wounds. In case of wounds infected outside the hospitals, the patients are the main source of infection. Whether harmful or harmless colonization occurs depend on the virulence of the organisms and the local resistance of the host. A knowledge of the patients general and local condition is, therefore, important in assessing significance of bacteriological findings (Mackie and MacCartney, 1984). Human infection caused by fungi and bacteria have become a formidable therapeutic challenge. A study was conducted in Government Hospital, Velur for 20 cases of wound infection which include both outpatients and inpatients.

Much of the exploration and utilization of natural products as antimicrobials arise from microbial sources. It was the discovery of penicillin that led to later discoveries of antibiotics such as Streptomycin, Aureomycin and Chloromycetin. (Trease and Evans, 1972). Despite significant value of antibiotics, the increase of bacterial resistance has restricted their clinical application (Yurdakok *et al.*, 1997 and Neu, 1992). The development of drug resistance in human pathogens against commonly used antibiotics has necessitated a search for new antimicrobial substances from other sources including plants (Erdogru, 2002).

The development of wound infection depends on the integrity and protective function of the skin (Calvin, 1998) It has been shown that wound infection is universal and the bacterial type varies with geographical location, resident flora of the skin, clothing at the site of wound, time between wound and examination. In recent years, there has been a growing prevalence of Gram negative

\* Author for correspondence.