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Two hundred and fifty swab specimens from post-operative wounds suspected to be infected were cultured for the presence of aerobic bacteria using standard bacteriological techniques. Aerobic bacteria were present in 210 specimens (84%), while 40 specimens (16%) yielded no growth. The following aerobic bacteria in decreasing order of prevalence were isolated *Staphylococcus aureus* (37.0%), *Klebsiella* sp. (20.2%), *Pseudomonas aeruginosa* (14.11%) *Escherichia coli* (9.30%), *Proteus* sp. (7.7%), *Staphylococcus epidermidis* (7.3%) and *Streptococcus pyogenes* (4.4%). There appears to be a changing pattern in the bacterial flora of post-operative wounds, from the predominant *Pseudomonas aeruginosa* to *Klebsiella* sp.

INTRODUCTION

Post operative wound infection is a serious problem for patients and has been known to complicate the recovery from a normal surgical procedure in the hospital. It may result from the use of contaminated instruments or from the operation environments (Westaby, 1985). For infection to take place, a wound count of equal or greater than 10^5 cells/g must enter the tissues and overcome the patient resistance and multiply (Ljungquist, 1964, Rains and Ritchie, 1984). The microorganisms implicated in wound infections cut across several genera (Brook and Frazier, 1990, Bucknell and Ellis, 1994) therefore strict adherence to aseptic techniques for surgical procedures as well as maintenance of high level of hygienic standard in the patients environment are measures employed to cut down or restrict infection of surgical incision. Lawal *et al.*, (1990) had suggested that bacteriological analysis of wound at the end of an operation is useful in identifying those at risk of post operation infections and the probable causative pathogenic organism, such that appropriate post operation management is maintained.

In Nigeria, *Staphylococcus aureus*, *Pseudomonas aeruginosa*, *Escherichia coli* and *Klebsiella* sp have been implicated by various reports (Scott-Emuakpor, 1970, Oguachuba 1985, Leigh *et al.*, 1990; Ridgeway *et al.*, 1990 and Enabulele *et al.*, 1996). The present study is aimed at identifying the bacteria isolates from post operative wounds in a Non Teaching Hospital settings and finding out any possible difference in the profile with those of earlier workers.

MATERIALS AND METHODS

A total of 250 wound swabs collected from patients at the surgical wards of The Central Hospital, Agbor and Central Hospital, Ogwuashi-Uku, Delta State, were used in this study. All samples were collected with sterile swab sticks. The samples were streaked onto blood agar and MacConkey agar plates and chocolate agar plates, which were incubated for 24-48 h at 37°C. However the chocolate agar plates were incubated in 10% CO₂ jar for 24-48 h at 37°C. The bacterial isolates were identified using standard bacteriological

techniques as described in the Manual of the Identification of Bacteria of Medical Importance (Cowan and Steel, 1974).

RESULTS

Out of the 250 specimens microbiologically assessed, growth was recorded in 210 specimens giving 84% positive culture recovery, while 40 (16%) recorded no growth. The bacteria isolated include, *Staphylococcus aureus* (37%), *Klebsiella* sp (20.2%) *Pseudomonas aeruginosa* (14.1%) *Escherichia coli* (9.3%), *Proteus* sp. (7.7%) *Staphylococcus epidermidis* (7.3%), *Streptococcus pyogenes* (4.4%) as shown in Table.

DISCUSSION

Both Gram positive and Gram negative aerobic bacteria were encountered in the study to varying degrees. The predominant aerobic Gram positive bacterial isolate was *Staphylococcus aureus* followed by *Staphylococcus epidermidis* and *Streptococcus pyogenes*. *Staphylococcus aureus* accounted for 37% of the total isolates. This finding agrees with those of earlier workers (Scott - Emuakpor, 1970; Wemambu, 1986; Oguachuba 1985, Leigh *et al.*, 1990 and Ridgeway *et al.*, 1990, Otukunefor and Daubo- Brown; 1990). The

reason for the predominance of *Staphylococcus aureus* is not surprising since they form a good percent of the comensal flora that grow on the normal skin (Jawetz *et al.*, 1984) and nares (Burnett *et al.*, 1976). Therefore the most probable source of the *Staphylococcus aureus* could be the patients themselves or the medical and nursing staff (from the nares), since it was observed that protective or trapping barriers were not always worn. Also intervals between cleaning of wards and the unrestricted access to patients relations and visitors in the ward may constitute a major source of these microorganisms. Of the Gram negatives, *Klebsiella* sp was predominant accounting for 20.2% of the total isolates. Opara (1982) and Rotowa *et al* (1989) had reported *Pseudomonas aeruginosa* as the predominant organism from wounds. The overall result obtained for *Pseudomonas aeruginosa*, *Escherichia coli* and *Proteus* sp in this study agrees with those of Enabulele *et al.*, (1996). The findings emphasize the need for constant assessment of post operative infected wounds in order to identify prevailing bacterial species for proper treatment with appropriate antibacterial agents.

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TABLE : Percentage Occurrence of Aerobic Bacteria From Post-operative Wounds.

Organism	Total no of isolates	% occurrence
<i>Staphylococcus aureus</i>	92	37.0
<i>Klebsiella species</i>	50	20.2
<i>Pseudomonas aeruginosa</i>	35	14.1
<i>Escherichia coli</i>	23	9.3
<i>Proteus species</i>	19	7.7
<i>Staphylococcus epidermidis</i>	18	7.3
<i>Streptococcus pyogenes</i>	11	4.4

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