

## Wound Infections

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**OBJECTIVE :** This study was designed to evaluate Neosporin<sup>(R)\*\*</sup> as an adjunct to systemic antimicrobial therapy of infected traumatic wounds.

**DESCRIPTION :** Patients were Thai nationals hospitalized at Phra Mongkutklao Hospital. Specifically excluded from the study were penetrating wounds of the head, chest or abdomen. Topical Neosporin<sup>(R)</sup>, a commercial mixture of neomycin sulfate, zinc bacitracin and polymyxin B, or a placebo was administered twice daily as an aerosol. Neosporin<sup>(R)</sup> and placebo were in identical canisters marked A or B and the code will not be revealed until the study is completed. Cultures for aerobic and anaerobic bacteriologic analyses were taken on the day of admission and each Monday, Wednesday and Friday for a total of 10 days. Clinical progress of patients was determined by daily observation of the wound by surgeons who assigned a number based on the scale shown in Table 1. Results were evaluated in terms of clinical changes of wounds and by quantitative and qualitative changes of the bacterial flora.

**PROGRESS :** A total of 23 patients have been studied. There were no differences in the clinical progress of the wounds of the two groups during the first 7 days of treatment but wounds treated with Drug B were in better clinical condition by the tenth day of treatment. Organisms isolated most frequently from both treatment groups were Pseudomonas aeruginosa, Streptococcus fecalis and coliform bacteria. Most bacterial isolates were sensitive to one or more of the three antimicrobials contained in Neosporin<sup>(R)</sup> and there was no evidence of increased resistance of bacterial isolates during the treatment period. Contrary to results of similar studies overgrowth by Staphylococcus aureus, Ps. aeruginosa or Candida albicans has not been a serious clinical problem.

**SUMMARY :** A double-blind study is being carried out to determine the effect of topical Neosporin<sup>(R)</sup> on the clinical progress and bacterial flora of infected traumatic wounds. Better clinical results have been noted in one of the two groups of patients but the bacteriological results are equivocal. Emergence of bacterial isolates resistant to the antimicrobials used or overgrowth by antimicrobial-resistant organisms have not been noted.

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\*\* "Neosporin" Aerosol and placebo was supplied by Burroughs Wellcome & Co. (U.S.A.) Inc., Tuckahoe, N.Y.

**Table 1. Numerical Scale for Designating Status of Wounds**

1. Clean and closed primarily
2. Open and clean, healthy granulation tissue
3. Converted recently to clean open wound
4. Open, not clean but improving
5. Previously closed and opened for drainage
6. Periwound erythema with edema, induration and tenderness
7. Presence of foreign body
8. Serous drainage
9. Purulent drainage
10. Necrotic tissue present
  - a. Skin
  - b. Muscle
11. Wound deteriorating (further invasion, necrosis, increased drainage)
12. Presence of crepitus