Evaluation Of Hospital Stay Duration In Post-Traumatic Wound Patients After Negative Pressure Versus Conventional Dressings : An Observational Comparative Study

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Introduction Split-thickness skin grafting is a widely used technique for post-traumatic wound management; however, it may get complicated by delayed wound healing which leads to a considerable burden on patients and healthcare services in terms of increased treatment duration, costs, and disability rates. One factor that may promote wound healing is the type of dressing applied over the skin graft. The use of negative pressure wound therapy over conventional dressings seems promising but evidence remains uncertain.

Objectives To compare the duration of hospital stay after negative pressure versus conventional dressings on skin graft for post-traumatic wound management.

Methods A prospective observational comparative study was conducted on 60 patients at a tertiary trauma care hospital. Patients with post-traumatic wounds awaiting skin grafting were included in the study. They were then divided into two equal groups based on odd/even hospital registration numbers. The dressing was applied after the operative procedure in a conventional way (Group CD) and by negative pressure technique (Group NPD). Graft take up is evaluated on day 4, 7 & 10. The length of hospital stays and complications were noted from the discharge proforma. The data were analyzed using SPSS software.

Results The demographic profile, size, and site of wound area of two groups were comparable ($p>0.05$). The graft take up was much higher in groups NPD vs CD ($p<0.05$). Duration of hospital stay was statistically lower in the group NPD vs CD (2.3±1.92 vs 5.6±4.23) (P=0.000). Complications such as infection and seroma formation were observed in 10% of patients in group CD.

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Conclusion Negative pressure wound therapy provides better skin graft take up, shorter hospital stays, and less-er complication rate over the conventional method of dressing after grafting. Larger RCTs are recommended to prove the effectiveness of this technique.