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Original Research Paper

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A STUDY ON COMPARISION BETWEEN VACCUM ASSISTED CLOSURE AND CONVENTIONAL DRESSINGS IN DIABETIC FOOT ULCERS

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ABSTRACT Diabetic foot ulcers are common & debilitating complication of diabetes and often lead to infection , amputation , decreased quality of life. The management of these ulcers is challenging & requires effective wound statergies.This study aimed to compare the efficacy of vaccum assisted closure [VAC] and conventional dressing methods in the treatment of the diabetic foot ulcers.This is a prospective comparative study done at Konaseema Institute Of Medical Sciences involving total of 50 patients who were having stage 2 / 3 diabetic foot ulcers according to wagner's grading & were of age 20-70 years.Results showed the mean time for wound healing was significantly shorter in group A [22.52 days] compared with group B [33.85 days] . This concluded that VAC exhibited a significant reduction in time required for complete wound healing compared to conventional dressing methods.Additionally VAC notably enhanced total granulation tissue formation over wound site at a higher rate.

KEYWORDS : diabetic foot ulcers , vaccum assisted closure , granulation tissue formation , conventional dressings, wound healing.

INTRODUCTION

Diabetic foot ulcers are a common & serious complication of diabetes.Diabetic foot ulcers develop as a result of multiple pathophysiological changes caused by diabetes like peripheral neuropathy , microangiopathy , impaired immune response and increased skin fragility.Diabetic foot ulcers are most common cause of chronic wounds.The risk factors for these ulcers are poor blood sugar control , long duration of diabetes, improper foot ware, ongoing infections, peripheral neuropathy.These ulcers are commonly found on plantar surface of foot especially over the pressure points such as heel , ball of foot , toes. There are different treatment modalities for diabetic foot ulcers. The most commonly used are conventional dressing methods where antibiotic impregnated guaze or parrafin guaze was used. In VAC negative pressure removes all the serous collection and blood from the wound there by reducing the risk of wound infection and enhancing the granulation tissue formation.

CASE STUDY

This is a prospective comparative study done in 50 patients who were between age of 20-70 years and both males & females were included.Patient diagnosed with wagner grade 2/3 diabetic foot ulcers are included.There were 2 groups where group A included conventional dressings done for 25 patients & group B where VAC was used for rest 25 patients.The primary outcome measure is time required for satisfactory wound healing calculated from start of treatment until wound is deemed fit for grafting & secondary outcome measure is weekly assessment of granulation tissue using a visual score.Materials used for VAC are vaccum suction apparatus , transparent semi permeable adhesive membrane sheets , tubing system and autoclaved sponge.In VAC after thorough wound debridement sponge is placed over the wound after cut into the size of the wound along with perforated drain tube placed over the wound & good seal was ensured with semipermeable, transparent , adhesive sheet.The distal end of tube was connected to suction apparatus which provided negative pressure of -125 mm of Hg intermittently for 3 days . Whereas the conventional dressings were done with hydrogen peroxide and betadine wash and placement of moist guaze with cotton pad over it & daily dressings were done.The time for wound healing was found to be less in VAC and it was associated with faster granulation tissue formation compared with conventional wound dressings.

CONCLUSIONS

This study concluded that VAC therapy is efficacious in promoting wound healing and improving patient outcomes in diabetic foot ulcer compared to conventional dressing methods.

Before VAC -

After VAC Therapy -

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