

Wound Healing With Medicated Sponge Dressing: An Unconventional Approach

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Introduction

Wound healing^(1,2) is a huge problem in today’s world. Infected wounds, non healing ulcers, osteomyelitis, discharging sinuses, diabetic foot ulcers, hyper granulation tissues over the open wound, amputation stumps and many more. Debridement has become necessary for all these categories of wound still there is a high chance of recurrence of non-healing.

Vacuum Assisted Closure (VAC dressing)^(3,4,5) has played a vital role in bringing miracles by healing wounds that were requiring multiple stage surgeries and flaps. But this system itself is costly and not all

patients can afford it especially in an economically rising country. So we came up with a similar type of dressing. Here the sterile sponge acts as a primary tool providing negative suction. It helps to suction out excess amount of discharge and also assists in stimulating granulation tissue formation. Its super cost-effectiveness is one of the biggest advantages amongst other benefits. Though unconventional, it serves as a very helpful technique for wound healing. The dressing was changed every 2-3 days considering the type of wound it was used for.

Keywords: Unconventional, Cost – effective, Day – care, Healing.

Methods

It is a RETROSPECTIVE study.

Inclusion Criteria

1. Post traumatic patients.
2. Secondary infections post-surgery.
3. Age group >25 years and <50 years.
4. No gender discrimination.

Exclusion Criteria

1. Age <25 years and >50 years.
2. Diabetic ulcer.
3. Venous/arterial ulcer.
4. Dermatological conditions.

Discussion

The basis of the study is the properties of the medical grade sponge.

Properties of Sponge:

- Capillary suction
- Capacity of absorption

Here, we had taken the study subjects with no discrimination. Varied patients with different sources and causes of non-healing ulcers have been taken up for the particular methodology of healing the wound. On application of the sterile wound over the debrided region, follow-ups showed astonishing outcomes without any major interventions.

The sterile sponge that we used for the dressing showed that it can enhance the granulation tissue formation and henceforth aid in speeding up the recovery.

Based on the data represented, we have noticed that all of our patients got healed and the duration of healing was significantly reduced.

Advantages

- Can be used - Anatomical areas- Difficult to create air-tight seal

- Can be changed routinely
- Does not require- Additional materials/ trained person as in VAC^(3,4,5)
- Cost effective
- Can be done as an Out Patient Department Procedure.

Disadvantages

- Negative vacuum seal can't be obtained.
- Material is sterile but procedure is not sterile compared to VAC.
- Efficacy yet to be proven.
- Longer duration.

Short-comings

- Need a comparative study with VAC to establish the exact duration of healing
- Need a larger study population

Results

Our study includes a total of 20 patients with 11 male patients and 9 female patients.

These patients had non-healing wounds including-

1. Post-surgery non-healing wound.
2. Non-healing ulcer.
3. Infectious non-healing post-debridement.
4. Amputation stump.
5. Pressure sore.
6. Infection secondary to implant in fracture fixation.
7. Large Abscess.

All these patients recovered with proper wound healing with a slight variation in timing.

Healthy granulation tissue was formed and satisfactory results have been obtained.

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Legend Figures

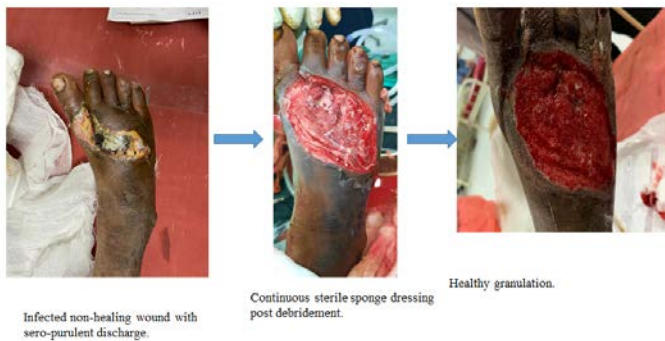


Figure 1



Skin grafting done as a final step

Figure 2



Diabetic foot 3rd toe gangrene. - Post-amputation -> sponge dressing done -> completely healed.

Figure 3



Infected wound post operative. (Debrided) Healthy granulation tissue after sponge dressing for 10 days.

Figure 4



Wound after repeated sponge dressing for 25 days. (dressing done every alternate day.) Healed scar. (total duration: 30 days.)

Figure 5



Tendoachilles rupture wound dehiscence -> sponge dressing on alternate day basis -> secondary closure -> sponge dressing -> healed scar.

Figure 6



Tendoachilles rupture wound dehiscence -> sponge dressing on alternate day basis -> secondary closure -> sponge dressing -> healed scar.

Figure 7



Tendoachilles rupture wound dehiscence -> sponge dressing on alternate day basis -> secondary closure -> sponge dressing -> healed scar.

Figure 8



Tendoachilles rupture wound dehiscence -> sponge dressing on alternate day basis -> secondary closure -> sponge dressing -> healed scar.

Figure 9



Tendoachilles rupture wound dehiscence -> sponge dressing on alternate day basis -> secondary closure -> sponge dressing -> healed scar.

Figure 10