

A Comparative Study of Colostrum Dressing Versus Conventional Dressing in Deep Wounds

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Abstract:

Deep wounds are commonly encountered in general surgical practice and managing them is a great challenge to a general surgeon. Clinically we can classify deep wounds broadly into diabetic and non-diabetic ulcers. The later includes varicose ulcers, traumatic ulcers, arterial ulcers and Pressure sores.

Materials and Method: A total of 100 patients admitted in Department of General Surgery, Navodaya Medical College Hospital and Research Centre.

Results: The age wise distribution of patients in this study is as shown above. In our study the ulcer most commonly occurred in age group between 46 to 50 years. Below 30yrs, 5%

Conclusion: Management of chronic wounds and ulcers is always a challenging issue due to delayed healing, causing morbidity and disability in the patient, is a burden on our health resources.

Keywords: Colostrum, Wound, Healing

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Introduction

Deep wounds are commonly encountered in general surgical practice and managing them is a great challenge to a general surgeon. Clinically we can classify deep wounds broadly into diabetic and non-diabetic ulcers. The later includes varicose ulcers, traumatic ulcers, arterial ulcers and Pressure sores. Day by day new ways of wound management is improving in general surgical practice. This study was done to test the efficacy of colostrum role in wound healing and to compare it with conventional methods. By doing so we can come to a conclusion on whether its use is significant or not in the wound management. The study group includes of 100 patients divided into two groups A and B respectively. Group A patients dressing done by using colostrum granules and group B patients dressing done in regular conventional way. The wound outcomes are studied by change in wound size (once in every 3 days), healing time and duration of Antibiotic therapy and comparing both, the study results are concluded. Ancient methods in managing wounds was first developed in Egypt, Skin of frog, animal grease was used to cover raw area.

The Egyptians records on treating burns describe dressings prepared with milk from mothers of babies[1]. Sushruta in his surgical treatise Sushruta

Samhita postulated the mixture of ghee (ghrita) and honey (madhu) for better wound healing[2]. Louis Pasteur and Joseph Lister have carried out the pioneering work in identifying causes for infection and the ways to prevent it. Pasteur indicated infection is introduced into the wound through foreign source. The elimination of pathogenic bacteria by aseptic techniques is a vital step in the process of wound healing[3]. The Management any wound needs multi-disciplinary approach. The standard therapy includes systemic control of diabetic mellitus, infection and local control by debridement, pressure relief and protective dressing[4]. Dressing materials are preferred according to wound types and preferences. No evidence exists to place any one approach above another. The important aspect of wound care after surgical and systemic intervention is topical wound care and treatment by cleansing, antibiotics, and debridement. Traditional agents including Hydrogen Peroxide, Dakin's solution and Iodine[5].

Materials and Method

A total of 100 patients admitted in Department of General Surgery, Navodaya Medical College Hospital and Research Centre.

Period of study: 1 year

Sample Size: The sample size is 100. By systemic random sampling it is divided in two groups A and B.

Group A done dressing in conventional manner and colostrum applied topically over the ulcer surface. Group B done dressing in conventional manner.

Inclusion Criteria:

- Patients with chronic ulcers including diabetic ulcer, venous ulcer and burns

- Patients who are willing to give informed consent.
- Patients aged 18yrs and above.

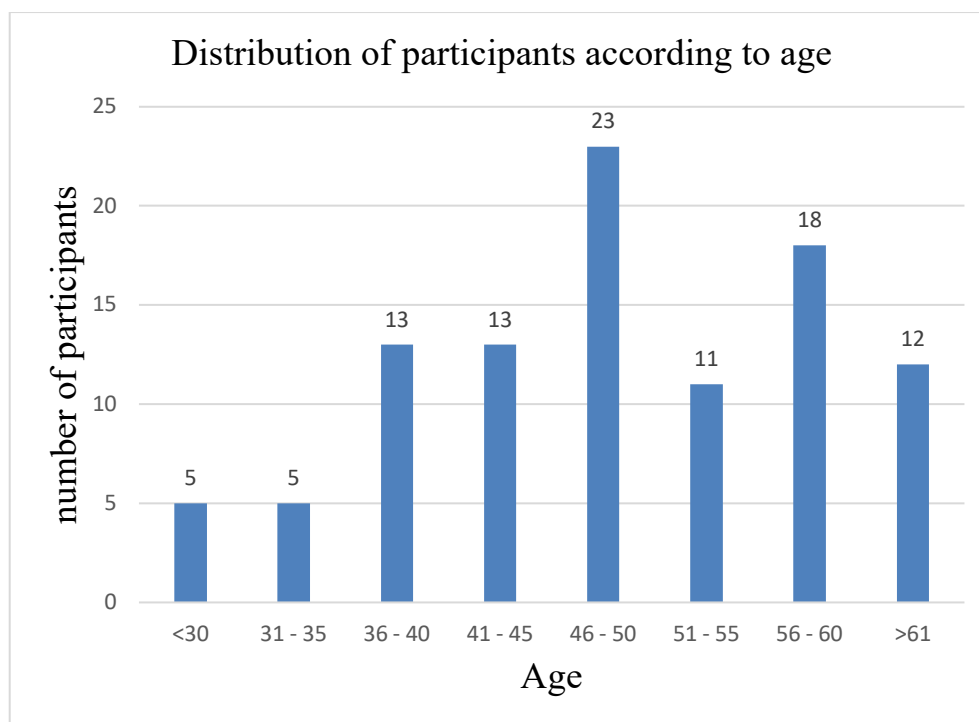
Exclusion Criteria:

- Patient with allergy to colostrum dressing.
- Patient who are critically ill.
- Ulcers due to peripheral arterial insufficiency.
- Patient with any evidence of underlying bone osteomyelitis.
- Malignant ulcers.

Results

Table 1: Distribution of age of the study participants

Age distribution	Number	Percentage
<30	5	5%
31 – 35	5	5%
36 – 40	13	13%
41 – 45	13	13%
46 - 50	23	23%
51 - 55	11	11%
56 - 60	18	18%
>61	12	12%
Total	100	100



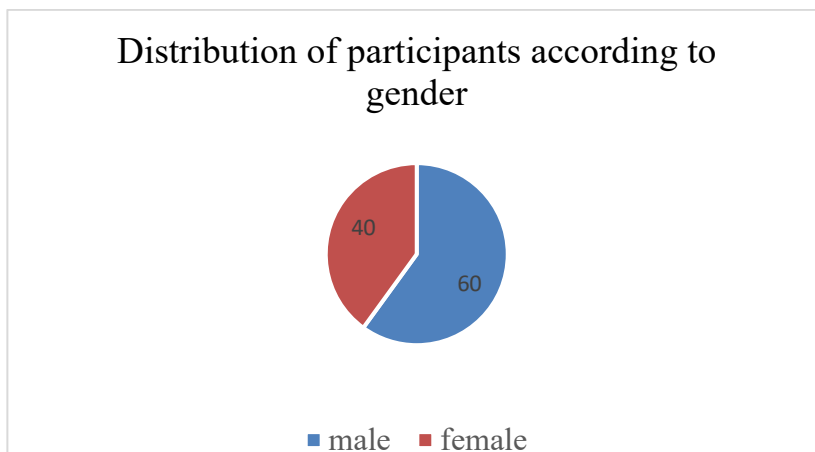
Graph 1: Distribution of age of the study participants

- The age wise distribution of patients in this study is as shown above
- In our study the ulcer most commonly occurred in age group between 46 to 50 years
- Below 30yrs, 5%
- 31 to 40yrs, 18%
- 41 to 50yrs, 36%
- 51 to 60yrs, 29% and above 61, 12% of patients

Table 2: Distribution of participants according to gender:

Gender distribution	Number	Percentage
Male	60	60%
Female	40	40%
Total	100	100

- In this study totally 100 patients are selected in which 60 are males and the 40 are females
- From the study it is concluded that ulcers are most common in males, contributes about 60% of the cases and the females 40% of cases.

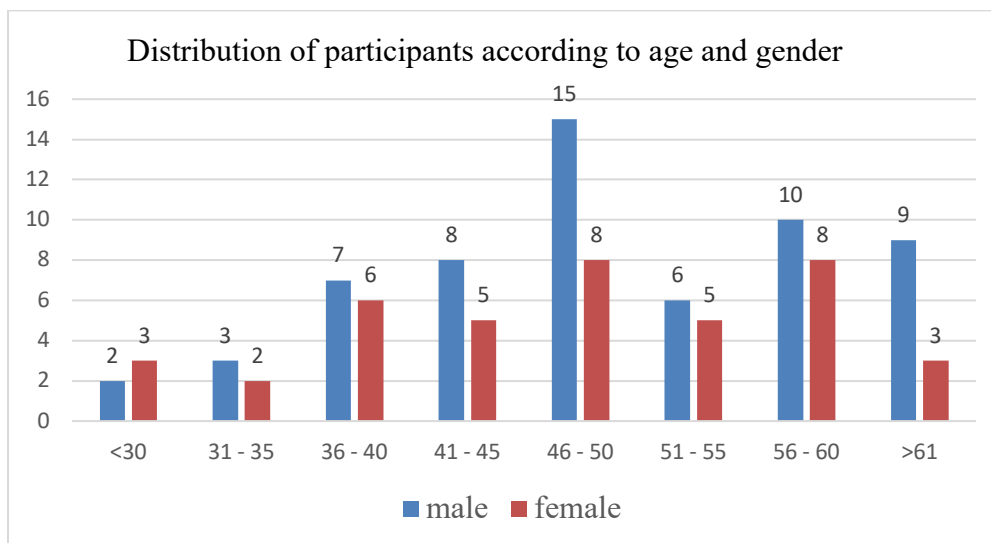


Graph 2: Distribution of participants according to gender:

Table 3: Distribution of participants according to age and gender:

Age distribution	Male	Female
<30	2	3
31 - 35	3	2
36 - 40	7	6
41 - 45	8	5
46 - 50	15	8
51 - 55	6	5
56 - 60	10	8
>61	9	3
Total	60	40

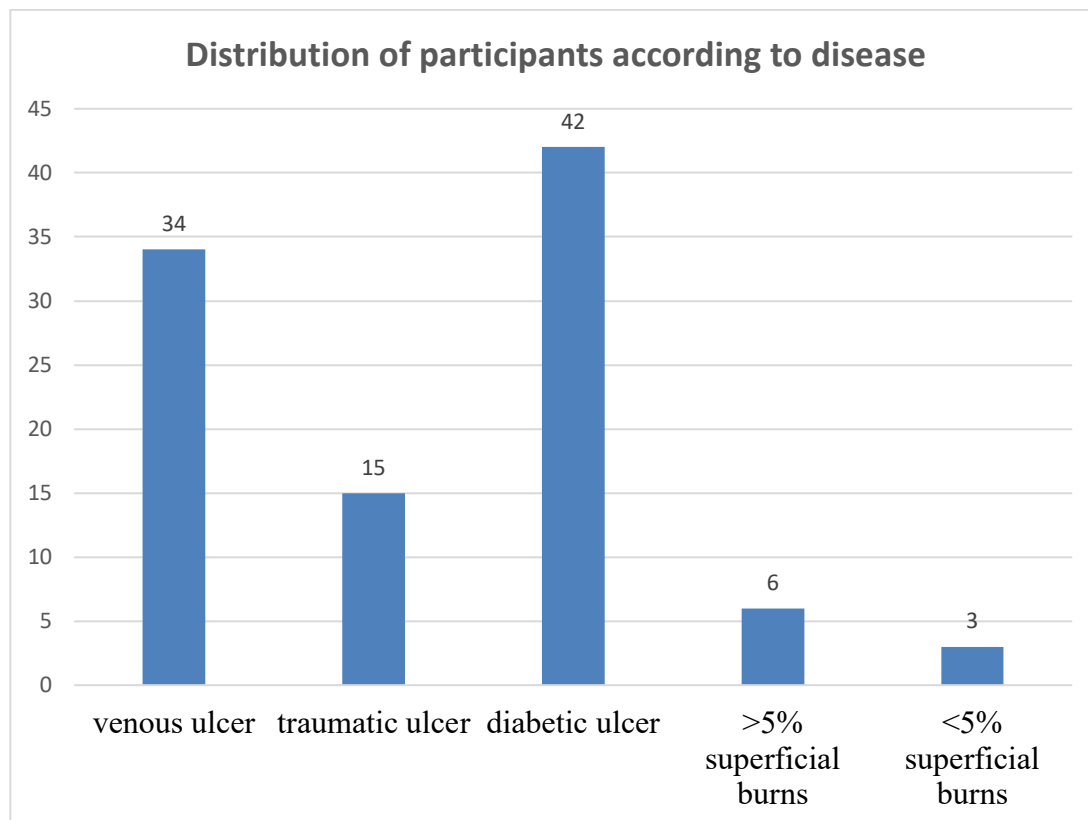
Most male patients in our study were 46-50 yr of age and female patients commonly lied between 46-50 and 56-60 yr of age.



Graph 3: Distribution of participants according to age and gender:

Table 4: Distribution of study participants according to disease

Diagnosis	Number	Percentage
Venous ulcer	34	34%
Traumatic ulcer	15	15%
Diabetic ulcer	42	42%
>5% superficial burns	6	6%
≤5% superficial burns	3	3%
Total	100	100



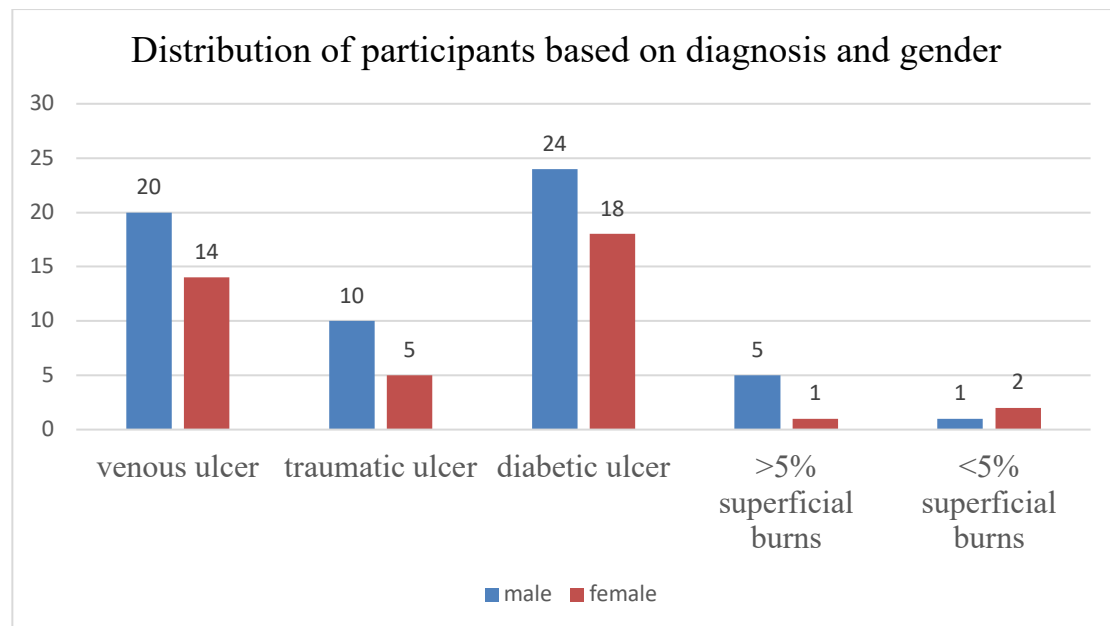
Graph 4: Distribution of study participants according to disease

- The above table depicts etiology among study participants.
- Most common etiology/disease was Diabetic ulcer (42%) followed by venous ulcer (34%), traumatic ulcer (15%) and burns (9%).

Table 5: Distribution of study participants according to diagnosis and gender

Diagnosis	Male	Female
Venous ulcer	20	14
Traumatic ulcer	10	5
Diabetic ulcer	24	18
>5% superficial burns	5	1
≤5% superficial burns	1	2
Total	60	40

- Among male patients most common disease in our study was diabetic ulcer (40%) followed by venous ulcer (34%), traumatic ulcer (16%) and burns (10%).
- Among female patients most common disease in our study was diabetic ulcer (45%) followed by venous ulcer (35%), traumatic ulcer (12.5%) and burns (7.5%).



Graph 5: Distribution of study participants according to diagnosis and gender

Discussion

The number of patients studied was 100 and were randomly divided into group A (50) and group B (50).

Age distribution:: Most ulcers are reported in age group between 30 to 60 years. 41 to 50 years contributes about 36%, 31 to 40 contributes 18%, 51 to 60 contributes 29%

Gender distribution:: The ulcers are most common in males contributes about 60% of the cases and females 40% of cases.

Etiology of ulcer distribution: In etiology of the ulcer in this study the most common ulcer is diabetic ulcer (42%) followed by venous ulcers (34.0%), traumatic ulcer (15%) and burns (9%). Patients with diabetic ulcer relatively had large wound compared to other diseases. Reduction in wound size was better appreciated in patients with <5% superficial burns (by 16.67mm) than other ulcers. Patients with diabetic ulcer stayed for longer time in hospital compared to others.

End of treatment analysis:

Patient with colostrum based dressing had a good result throughout the course of the study. In day 10 the results are statistically significant (p value<0.05). There is reduction in the duration of hospital stay in colostrum based dressing patients comparative to conventional dressing alone (p value<0.05). In addition, there was no significant difference between the two groups with respect to baseline ulcer size and amount of slough. Group A has experienced less pain compared to that of group B because the need for the bed side surgical

debridement is less. The duration of hospital stay was less in group A compared to group B. The patients treated with colostrum based dressings had faster reduction of slough / necrotic tissue and increased granulation tissue. This study demonstrated that colostrum based dressings along with bed side surgical debridement had cumulative effect in reduction of slough and increase granulation tissue.

Conclusion

Management of chronic wounds and ulcers is always a challenging issue due to delayed healing, causing morbidity and disability in the patient, is a burden on our health resources. Therefore, is a need for application of newer and advanced modalities in management of wounds. Colostrum was recently concluded from various study trails that it promotes wound healing. This study was done to test the role of colostrum in wound healing.

References

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