

## ROLE OF PLAIN COW'S GHRUT IN SKIN GRAFTING SURGERY

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## ABSTRACT

Wound means any discontinuity of skin or mucous membrane due to external injury. Skin grafting procedure is a part of plastic surgery and these techniques are gifted by Acharya Sushruta to the world. Alongwith surgical techniques, he also give solutions for achieving success in surgery. Use of plain cow's ghrut (ghee) in skin grafting is one of them. So we studied on this topic and work done. Wound healing are the main and major problem of these days. Even new techniques of dressings, range of newer and higher broad spectrum antibiotics are available. Still there are less success rate in skin grafting surgery. So we decided to do work on this topic. Acharya Sushruta illucidated 60 methods in management of wound healing. Use of plain cow's ghrut is the best solution for this because of it's adhesive, soothing, lubricant and bacteriostatic properties. So we performed comperative study with Vaseline jelly which is rationally use in skin grafting surgery now a days. And we got fruitful results in this type of particular study. Plain cow's ghrut seems more effective in skin grafting surgery to help in take off of skin graft with no infection described by Acharya Sushruta. This technique is safe, simple and inexpensive. This study is being carried out since last 18 years.

**KEYWORDS:** Skin grafting, Ayurveda, Plain cow's ghrut (Ghee), Plastic surgery.

## INTRODUCTION

“क्षतोष्मणो निग्रहार्थं सन्धानार्थं तथैव च ।

सद्योन्नपेष्वायतेषु क्षौद्रसर्पिर्विधीयते ॥ ”

सु. चि. 1/130

**Means** - Ghee and honey should be used in new and wide ulcers to stick their edges & proper healing.

“रोपणे सपरीषेके पाने च व्रणिनां सदा ।

तैलं घृतं वा संयोज्यं शरीरर्तुनवेक्ष्य हि ॥ ”

सु. चि. 2/79

**Means** - Oil or ghee should always be used for healing, washing & enterally by the patients according to the nature of ulcer.

In above both versions Acharya Sushruta advised use of ghrut (ghee) for healing of ulcers.

Acharya Sushruta elaborated management of wound very well. He described total 60 methods in detail in Chikitsa Sthan. He spends first 2 chapter in Chikitsa Sthan for this and quoted above versions regarding ulcers. But here we use it specially for skin grafting. Use of various types of

ghrutas (i.e. medicated ghee) according to condition and type of wound mentioned in Sushruta Samhita.

Here, we studied only plain cow's ghrut for skin grafting in fully granulated wound, as per advocated by acharya Sushruta.

There are 60 methods of treatment in the management of wound. Among of these method no. 57 is 'Madhu-Sarpi' means use of Honey &amp; plain cow's Ghrut for early and better healing of wound. Acharya Sushrut advocated not only plain ghrut but also madhu (honey &amp; oil). He allowed to surgeon what to choose? Madhu (honey) or Sarpi (plain ghee) for the patient according to cause and condition of wound, it depends on surgeon's experience. Skin grafting techniques are not new for Ayurveda. It is the part of plastic surgery.

Acharya Sushruta is the father of surgery, agreed by all over the world. And plastic surgery is the area of choice of Acharya Sushruta. He explained various types and methods of plastic surgery in his scripture.

Why only plain cow's ghrut can apply for skin grafting? because cow's ghrut has soothing and bacteriostatic property and also works as a lubricant. Ghrut coats Myeline sheath of nerve end, so it acts as painkiller also.

Due to the bacteriostatic property, it avoids bacterial colonial growth at the granulated site and increases chances of take-off of grafted skin.

I followed the concept of above version, i.e. the use of plain cow's ghut in the skin grafting surgery, since last 18 years of my practice

Most of the time, skin grafting is rejected and most common reason is infection behind that.

Generally, most of the surgeons use vaseline jelly or liquid paraffin for lubrication in the skin grafting procedure but after 2-3 days it get dried and this becomes the cause for infection and at the time of very next dressing, when they go for removing the dressing, graft will come out. This is the very common problem of now a days. But use of plain cow's ghut are the best solution to overcome this problem, which was already quoted by Acharya Sushruta.

Vaseline is known as petroleum jelly & common household product. Vaseline pure petroleum jelly is clinically proven to help heal- dry, damaged skin. Petroleum jelly provides dry skin relief & protects minor cuts & burns to soften skin and to lock in moisture in dry, cracked skin.

Vaseline is combined with minerals and micro-crystalline wax. In 1860's, Robert Augustus Chesebrough, a chemist from New-York, discovered petroleum jelly. In 1970, this product was branded as Vaseline petroleum jelly.

**Composition of Vaseline jelly** – Water (Aqua), Glycerine, Stearic Acid, Isopropyl Palmitate, Glycol Stearate, Pegwan-100 Stearate, Mineral oil, Dimethicone, Petrolatum, Glyceryl Stearate, Phenoxyethanol, Cetyl Alcohol, Methyl Paraben, Acrylates, Alkyl Acrylate cross polymer, Triethanolamine, Propylparaben, Disodium EDTA, Stearamide AMP.

So, we decided to do a comparative study between Plain cow's ghut (Group-A, i.e. Trial group) and Vaseline jelly (Group-B, i.e. Control Group)

#### Aims and objects

- To compare and study the efficacy of plain cow's ghut and vaseline jelly in skin grafting take-off.

#### Data Analysis

##### 1) Age

	Mean Value
Plain Cow's Ghut (Group-A) (Trial Group)	54 years
Vaseline Jelly (Group-B) (Control Group)	55 years

- Post skin grafting infection.
- % of take off of skin graft.
- Any adverse drug reaction.

#### METHODOLOGY

##### Material

- Plain cow's ghut (Group-A -Trial group) and
- Vaseline jelly (Tripple purified) (Group-B - Control group)

##### Methods

- Total 30-30 patient has taken for this study.
- First 30 patients for plain cow's ghurt (Group-A – Trial group)
- Another 30 patients for Vaseline jelly (Group-B- Control group)
- Male and female patients were selected.
- Age group between 19 to 60 years for both groups.
- Sterilized warm plain cow's ghut and vaseline jelly directly applied over raw surface of fully granulated wound and over ventral part of skin graft for Group – A & B resp. before skin grafting.
- Plastic coated thin paper were put over skin graft & covered with sterilized guaze pad and fixed with sterilized roller bandage was applied over skin grafting dressing for stability of skin graft.
- Stitching or stappling of skin graft was carried out as per routine.
- This dressing method done under strictly aseptic precaution & applied for both group.
- Alongwith proper antibiotics coverage given in post operative period. (after culture and sensitivity report done)

##### Inclusion criteria

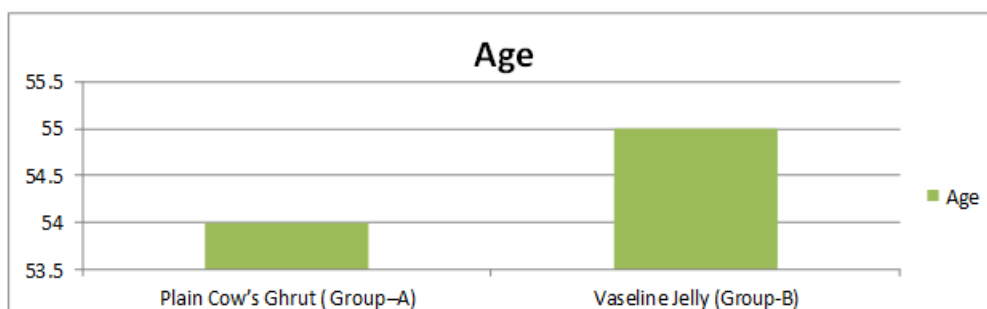
- Age – between 19- 60 years for both groups.
- Sex - both male and female.

##### All types of wounds

- Post traumatic ulcers,
- Diabetic foot ulcers,
- Varicose ulcers,
- Non healing ulcers.
- Culture & Sensitivity report of surface swab of wound should be nil.

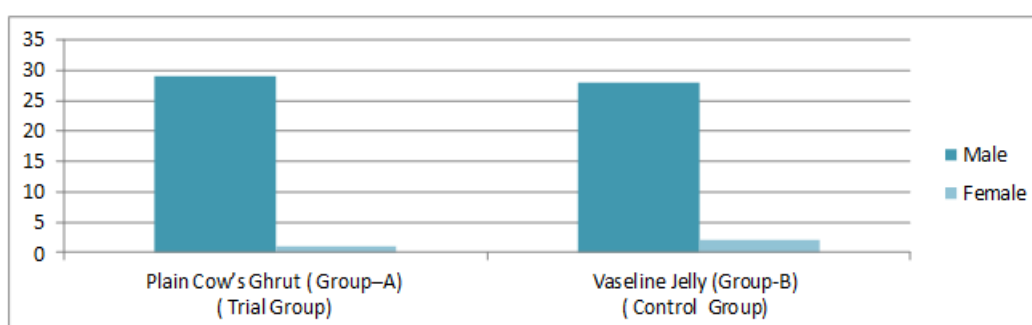
##### Exclusion criteria

- Infected wounds
- Sloughed wounds
- Non granulated wounds.



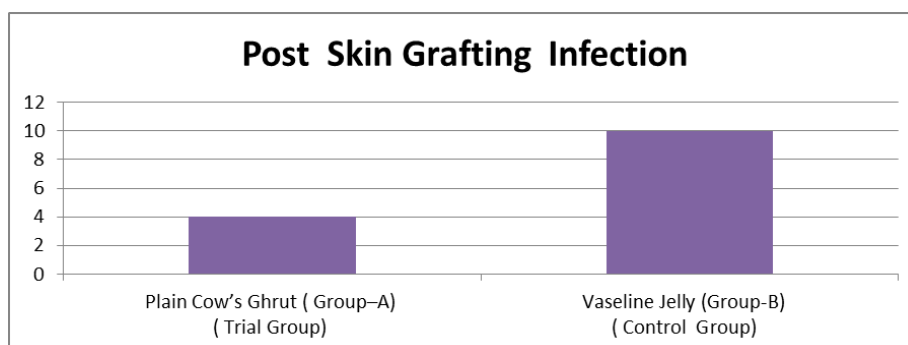
## 2) Sex

	Male	Female
<b>Plain Cow's Ghрут (Group-A) (Trial Group)</b>	<b>29</b>	<b>1</b>
<b>Vaseline Jelly (Group-B) (Control Group)</b>	<b>28</b>	<b>2</b>



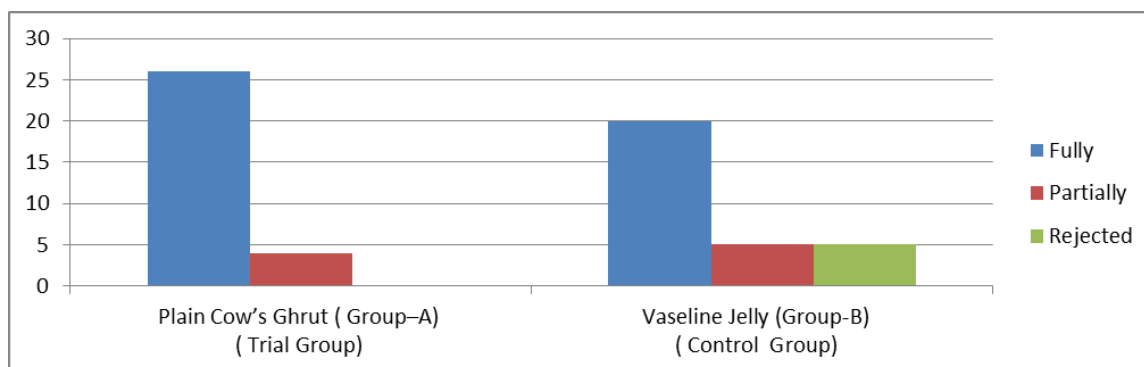
## 3) Post Skin Grafting infection

	No. of patients	%
<b>Plain Cow's Ghрут (Group-A) (Trial Group)</b>	<b>4</b>	<b>13.32</b>
<b>Vaseline Jelly (Group-B) (Control Group)</b>	<b>10</b>	<b>33.33</b>



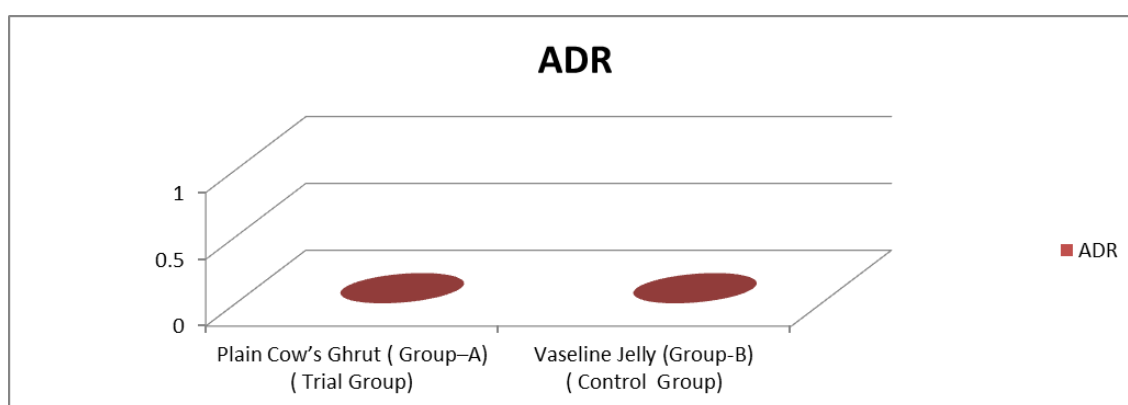
## 4) % of take-off of skin graft

	Fully	%	Partially	%	Rejected	%
<b>Plain Cow's Ghрут (Group-A) (Trial Group)</b>	<b>26</b>	<b>86.66</b>	<b>4</b>	<b>13.32</b>	<b>0</b>	<b>0</b>
<b>Vaseline Jelly (Group-B) (Control Group)</b>	<b>20</b>	<b>66.66</b>	<b>5</b>	<b>16.66</b>	<b>5</b>	<b>16.66</b>



#### 5) Any Adverse drug reaction

Plain Cow's Ghrit ( Group-A) (Trial Group)	Nil
Vaseline Jelly (Group-B) (Control Group)	Nil



#### Observation

Certainly patients are more succeed in Trial group –A i.e. plain cow's ghrit. Post skin grafting infection rate is less in group - A i.e. 13.32, where Group - B was 33.33. Percent of take off of skin grafts - successive rate are 86.66, 13.32 and 0% in fully, partially and rejected resp. in Trial group – A, where 66.66, 16.66 & 16.66 in fully, partially and rejected respectively in skin grafting in Group - B. It more clears & proves that the positive role of plain cow's ghrit in take-off of skin graft.

The age & sex ratio are nearly equal in both group. Same unbiased methods are applied in both group as mentioned in methodology.

There were no observed any adverse drug reaction in post skin grafting period.

Generally, we can say that plain cow's ghrit is more beneficial in skin grafting surgery due to it's adhesive, lubricant, soothing, bacteriostatic properties.

Result will be more better if we use medicated ghrit in this regard recommended by Acharya Sushruta.

#### RESULT

Plain cow's ghrit (i.e. Group – A - Trial group) is playing significant role in taking-off of skin graft rather than Vaseline jelly i.e. Group - B - Control Group).

#### CONCLUSION

The proposed technique is simple, safe and inexpensive method and increase chances of take-off of skin graft.

Further studies are needed to confirm this data.

#### Data availability

Data are available from the corresponding author.

#### Conflicts of Interest

Conflicts of interest - Nil.

Other funding sources - Nil.

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