Healing Effect Of
Athanu. Te' Hpajaun: Gje'
(အသားနုတက်ဖယောင်းချက်) With
Adjuvant TMF Therapy On *Vrana*

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Introduction

- *Vrana* - **"wound or ulcer"**[3]

- *Vrana* - destruction of body tissue and formation of scar after healing[3]

- many of *Vrana* heal up well in normal course of time

- 1/4 of *Vrana* delay to heal due to their natures and underlying pathology [4]

- In Myanmar Traditional Medicine (MTM), there are many types of applications used for healing of the *Vrana*.

- Athanu. Te' Hpajaun: Gje' is the **most commonly used** in Ulcer and Sore Ward, Mandalay Traditional Medicine Teaching Hospital (MTMTH)

- patients treated with Athanu. Te' Hpajaun: Gje' were **49% in 2013**, **50% in 2014** and **49% in 2015** of admitted patients

- It has been being used in MTMTH **since 1991**.

- formulae of Athanu. Te' Hpajaun: Gje' are little difference depend on Myanmar Traditional Medical treatises

- ingredients are **cost effective, easily available** to collect and **easy to formulate**[1]

- According to the clinical practices, it **promote the formation of granulation tissues** and it has **healing effect without keloidal formation**[1].

- there was **no scientific study** concerned with Athanu. Te' Hpajaun: Gje'.

- Therefore, this study was aimed to asssess the healing effect of Athanu. Te'Hpajaun: Gje'

Objectives

1. To **assess the characteristics** of *Vrana* with adjuvant TMF therapy before treatment (day 0 to day 7)

2. To **determine the serial changes** of characteristics of *Vrana* at day 14, day 21, day 28 and day 35

3. To **evaluate the healing effect** of Athanu. Te'Hpajaun: Gje' with adjuvant TMF therapy on *Vrana* before and after treatment (day 0 and day 35)

Methodology

- **Study Design**

  Hospital based Quasi experimental study

- **Study Site**

  Mandalay Traditional Medicine Teaching Hospital

- **Study Period**

  One year (1st August 2016 to 31st July 2017)

- **Selection Criteria**

➢ **Inclusion criteria**

1. Both sex

2. Age 15 to 70 years

3. All cases of *Vrana* admitted to Ulcer and Sore Therapy Ward, MTMTH

4. Patients with Diabetes Mellitus

   (FBS ≤ 10.0 mmol/L)

➢ **Exclusion criteria**

  1. Patients having antibiotics

  2. Patients with Diabetes Mellitus (FBS > 10.0mmol/L)

  3. Malignant ulcer

  4. Ulcer with osteomyelitis

  5. Fistula in Ano (FIA)

  6. Piles

  7. Skin diseases (eczema, scabies, ringworm)

- **Sample Size -** 30 patients

Ingredients of Athanu. Te' Hpajaun: Gje'

Copper Sulphate ဝဲ

Syzygium aromaticum ဝဲ

Zingiber officinale ဝဲ

Dipterocarpus tuberculatus ၅ကျပ်

Ingredients of Athanu. Te' Hpajaun: Gje'

Cera flava ၅ကျပ်

Sesamum indicum ၂၅ကျပ်

Phaseolus radiatus ၅ကျပ်

Preparation of Athanu. Te' Hpajaun: Gje'

Putting Sesamum indicum oil into double boiler

Addition of Cera flava into double boiler

Addition of pounded powder into double boiler

Preparation of Athanu. Te'Hpajaun: Gje'

Stiring with spoon to blend

Pouring into a clean glass jar by filtering with a cloth filter

Closing tightly the glass jar with air tight lid

Treatment procedure on *Vrana* (from day 0 to day 7)

Measuring the size of ulcer and noting characteristics of Vrana

Cleansing Vrana with warm water

Covering with bandage

Treatment procedure on *Vrana*
(from day 7 to day 35)

Cleansing Vrana with warm water

Putting medicated bandage onto *Vrana*

Covering with bandage

➢ as oral medicine (from day 0 to day 35)

	Diabetic Patients	Non-Diabetic Patients
Morning	TMF 17 (1g) + TMF 23 (1g) with warm water	TMF 6 (1g) + TMF 23 (1g) with warm water
Afternoon	TMF 17 (1g) + TMF 23 (1g) with warm water	TMF 6 (1g) + TMF 23 (1g) with warm water
Evening	TMF 17 (1g) + TMF 23 (1g) with warm water	TMF 6 (1g) + TMF 23 (1g) with warm water
Bed Time	TMF 12 (2g) with water	TMF 12 (2g) with water

changes of *Vrana* were recorded by

Bates-Jensen Wound Assessment Tool (BWAT)[2]

from day 0 to day 35 every seventh day

Bates-Jensen Wound Assessment Tool (BWAT)[2]

No.	Item	Score
1.	**Size**	1 = Length x width <4 sq cm 2 = Length x width 4--<16 sq cm 3 = Length x width 16.1--<36 sq cm 4 = Length x width 36.1--<80 sq cm 5 = Length x width >80 sq cm
2.	**Depth**	1 = Non-blanchable erythema on intact skin 2 = Partial thickness skin loss 3= Full thickness skin loss 4 = Obscured by necrosis 5 = Full thickness skin loss

No.	Item	Score
3.	**Edges**	1 = Indistinct, diffuse, 2 = Distinct, outline clearly visible, even with woundbase 3 = Well-defined, not attached to wound base 4 = Well-defined, rolled under, thickened 5 = Well-defined, fibrotic, scarred
4.	**Undermining**	1 = None present 2 = Undermining < 2 cm in any area 3 = Undermining 2-4 cm involving < 50% wound margins 4 = Undermining 2-4 cm involving > 50% wound margins 5 = Undermining > 4 cm or Tunneling
5.	**Necrotic Tissue Type**	1 = None visible 2 = White/grey &/or non-adherent yellowslough 3 = Loosely adherent yellow slough 4 = Adherent, soft, black eschar 5 = Firmly adherent, hard, black eschar

| No.	Item	Score
6.	**Necrotic Tissue Amount**	1 = None visible 2 = < 25% of wound bed covered 3 = 25% to 50% of wound covered 4 = > 50% and < 75% of wound covered 5 = 75% to 100% of wound covered
7.	**Exudate Type**	1 = None 2 = Bloody 3 = Serosanguineous: thin, watery, pale red/pink 4 = Serous: thin, watery, clear 5 = Purulent: thin or thick, opaque
8.	**Exudate Amount**	1 = None, dry wound 2 = Scant, wound moist but no observable exudate 3 = Small: <25% of the bandage 4 = Moderate: 25% - 75% of the bandage 5 = Large: > 75% of the bandage

No.	Item	Score
9.	**Skin Color Surroun-ding Wound**	1 = Pink or normal for ethnic group 2 = Bright red &/or blanches to touch 3 = White or grey pallor or hypopigmented 4 = Dark red or purple &/or non-blanchable 5 = Black or hyperpigmented
10.	**Peripheral Tissue Edema**	1 = No swelling or edema 2 = Non-pitting edema extends <4 cm around wound 3 = Non-pitting edema extends $\geq$4 cm around wound 4 = Pitting edema extends < 4 cm around wound 5 = Crepitus and/or pitting edema extends >4 cm
11.	**Peripheral Tissue Induration**	1 = None present 2 = Induration, < 2 cm around wound 3 = Induration 2-4 cm extending < 50% around wound 4 = Induration 2-4 cm extending $\geq$50% around wound 5 = Induration > 4 cm in any area around wound

No.	Item	Score
12.	**Granula-tion Tissue**	1 = Skin intact or partial thickness wound 2 = Bright, beefy red; 75% to 100% of wound filled 3 = Bright, beefy red; < 75% &> 25% of wound filled 4 = Pink, &/or dull, dusky red &/or fills $\leq$25% of wound 5 = No granulation tissue present
13.	**Epithelia-lization**	1 = 100% wound covered, surface intact 2 = 75% to <100% wound covered 3 = 50% to <75% wound covered 4 = 25% to < 50% wound covered 5 = < 25% wound covered

Data Collection and Data Analysis

- Data entry was done by using Microsoft Excel 2010 and data were analyzed by using Statistical Package for the Social Sciences (SPSS) software version 21.
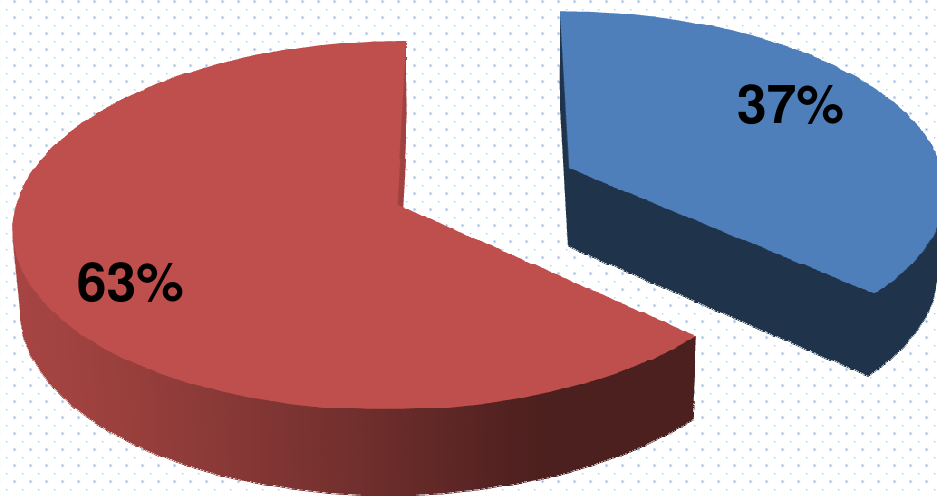
Findings and Discussion

Diabetic Ulcer - 3
Dry Gangrene - 3
Traumatic Ulcer - 5
Trophic Ulcer - 6
Abscess - 13
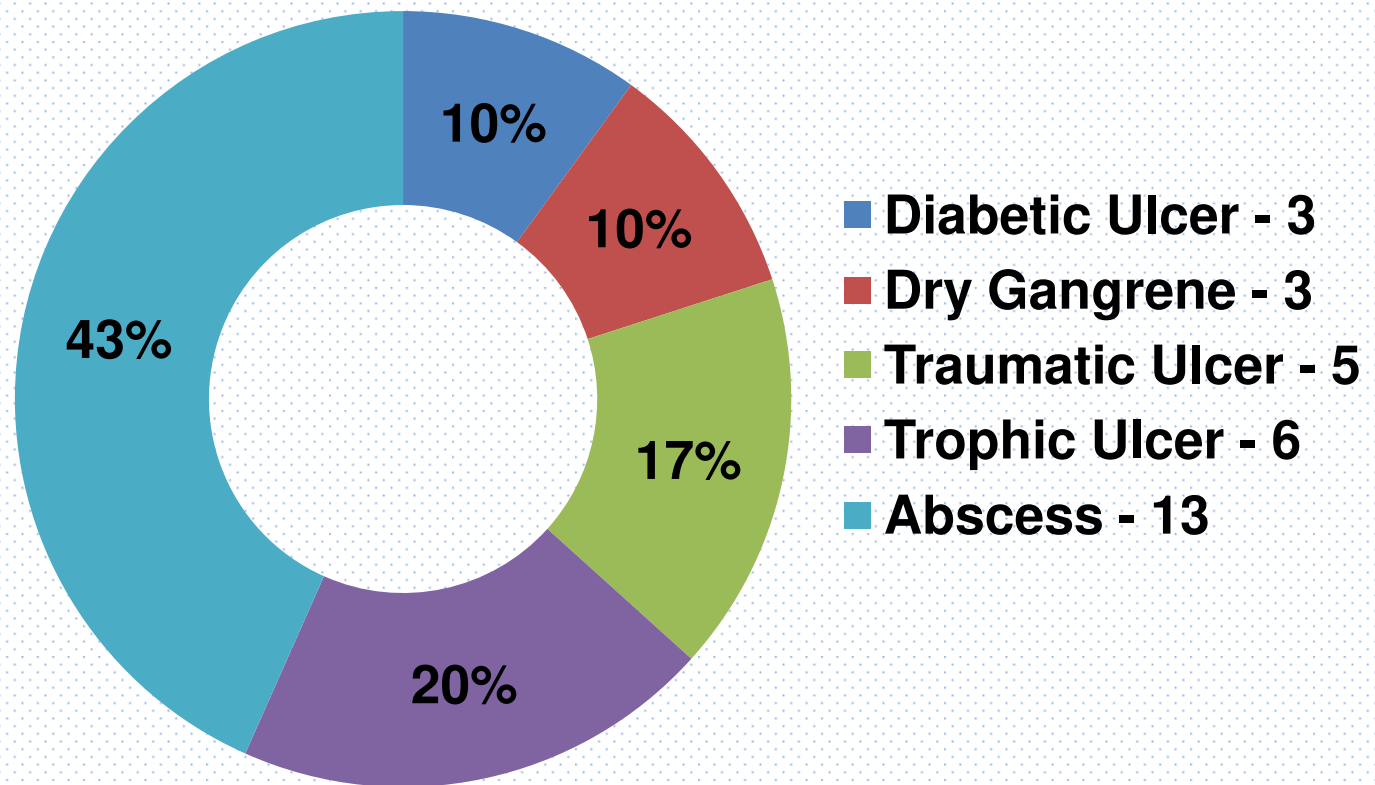
Types of *Vrana*

Diabetic and Non-diabetic Pateints

37%

63%

- Diabetic Patients
- Non-diabetic Patients

# Effectiveness on wound characteristics after treatment (from day 0 to day 35)

Wound Characteristics	Percent relief before treatment (day 0 to day 7)	Percent relief during treatment			
		day 0 to day 14	day 0 to day 21	day 0 to day 28	day 0 to day 35
Size	-11.1	2.2	20	24.4	26.7
Depth	-12.8	5.1	24.4	37.2	37.2
Undermining	-26.4	-3.8	13.2	18.9	24.5
Necrotic tissue type	-3.6	39.9	49.4	62.7	62.7

Wound Characteristics	Percent relief before treatment (day 0 to day 7)	Percent relief during treatment			
		day 0 to day 14	day 0 to day 21	day 0 to day 28	day 0 to day 35
Necrotic tissue amount	-10.4	38.5	56.3	67.7	67.7
Exudate type	-1.6	29.1	55.1	67.7	67.7
Exudate amount	-13.4	21.7	43.3	59.8	59.8
Skin color surrounding	5.8	22.3	32	42.7	42.7
Edema	-1.4	14.9	31.1	48.7	48.7

Wound Characteristics	Percent relief before treatment (day 0 to day 7)	Percent relief during treatment			
		day 0 to day 14	day 0 to day 21	day 0 to day 28	day 0 to day 35
Induration	-1.5	20.6	32.4	39.7	39.7
Granulation tissue	0.0	38	51.2	62	62
Epithelialization	0.0	18.8	46.3	61.7	61.7
Total score	-5.2	21.9	40.8	51	53.3

The overall percent relief is - 53.3%

Effectiveness on total mean score before and after treatment
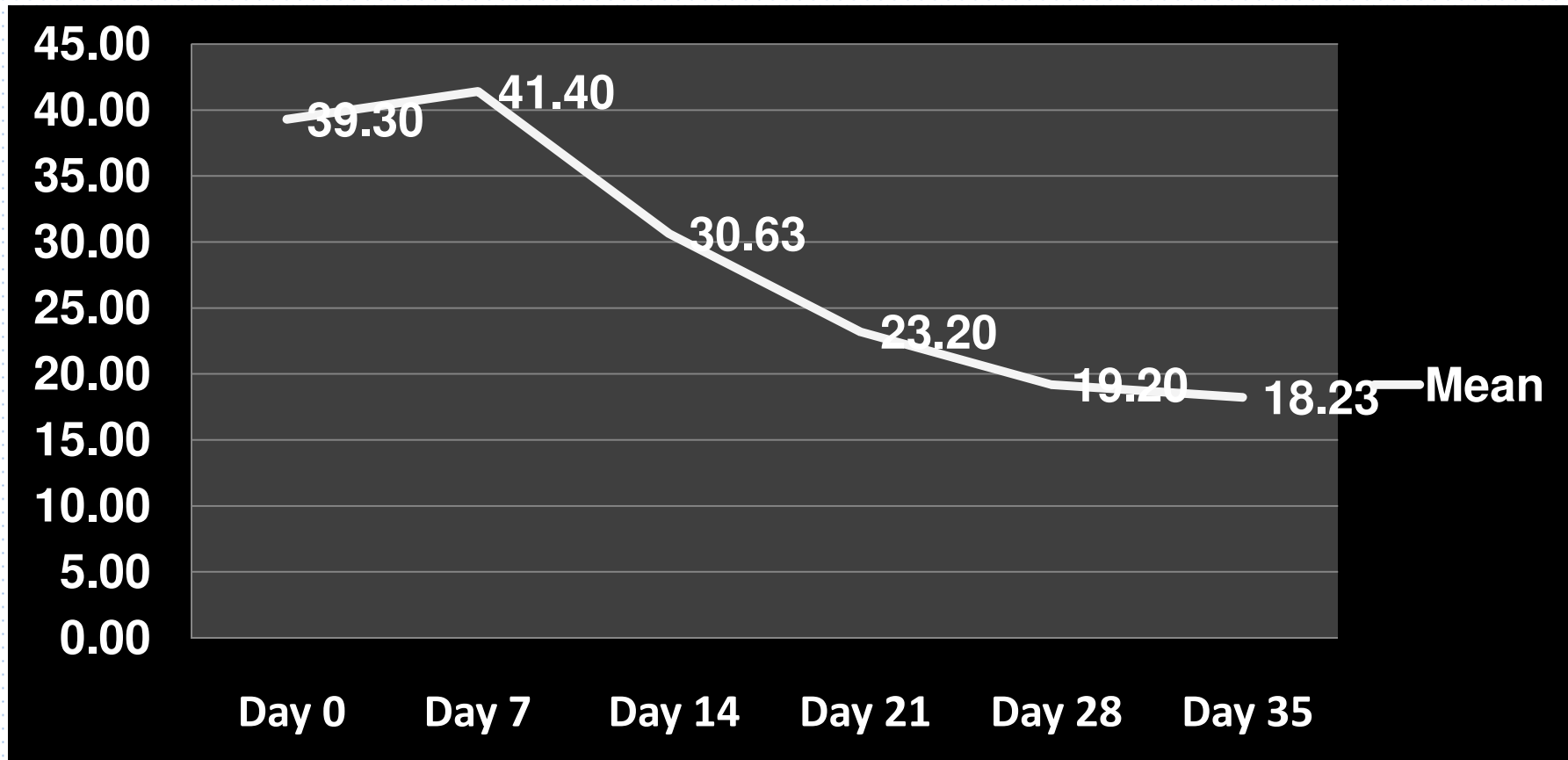
There were significant difference between all pairs (p value < 0.01)

- **abscess** was the most improved type - 77%

- in 11 diabetic patients, 7 were affected at lower limb

- diabeties mellitus is caused by increasing *Apo*, *Prithvi* and decreasing *Vayo*, *Akasa*.

- it can be assumed that *Vrana* caused by diabetes mellitus mostly occurs in lower part of the body

- wound healing can occur only when increasing *Ushna Tejo, Prithvi* and *Akasa.*

- most ingredients of Athanu. Te'Hpajaun: Gje' can increase *Ushna Tejo, Prithvi* and *Akasa*

- can be used till the *Vrana* gets completely healing without complication such as itching and burning sensation

- reduces scar formation

Conclusion and Suggestion

- can be used reliably in different types of *Vrana*

- further studies should be performed with Athanu. Te' Hpajaun: Gje' on specific type of *Vrana* with large sample size

- Comparative study of Athanu. Te' Hpajaun: Gje' with well known western medicine application should be performed

Traumatic Ulcer

Before Treatment

After Treatment

33

Trophic Ulcer

Before Treatment

After Treatment

Diabetic Ulcer

Before Treatment

After Treatment

Dry Gangrene

**Before
Treatment**

**After
Treatment**

36

Abscess

Before Treatment

After Treatment

Acknowledgements

- Director General Dr. Moe Swe and all members of research congress committee

- Board of studies for the degree of MMTM

- Dr. Kyaw Oo, Dr. Su Yi Toe for the analysis of statistical data

- Colleagues from UTM and MTMTH

- Patients for their whole-hearted support

References

1.အောင်ကျော်မင်း (ဦး)၊ (၁၉၉၅)၊ သင်ရိုးညွှန်းတမ်း အနာပေါက်ကုထုံးလာ အနာအသားနုတက် ဖယောင်းချက် ဆေးအား အနာပေါက်ရောဂါတွင် သုတေသနပြု ကုသမှု ဆေးဖက် အာနိသင်များကို တင်ပြခြင်း၊ တိုင်းရင်းဆေးပညာ သုတေသန စာတမ်းဖတ်ပွဲ၊ ရန်ကုန်မြို့။

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4. Singh, L. (2015). Concept of *Vrana* in ayurveda. Varanasi.

Effectiveness on wound characteristics after treatment (from day 0 to day 35)

the percentages of reliefs were calculated by using the following formula.

$$\% \text{ improved} = \frac{(\text{Score at entry} - \text{Score at completion})}{\text{Score at entry}} \times 100$$