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Homeopathic Formulation And Evaluation Of tridax procumbens Ointment On Wound Healing

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ABSTRACT:

The present investigation was aimed to formulate and evaluate the ointment of wound healing constituting the ethanolic extract of Tridax procumbens (leaves).Need: Homeopathic drug have less side effects than the ayurvedic drug and safety and efficacy Materials and Methods: Formulations of ointment were formulated by using heat fusion method using a white soft paraffin or wax as ointment base. The physical evaluation of these homeopathic formulations were made in terms of physical and chemical parameters like pH, physical stability, spreadability, viscosity.

Keywords: Tridax procumbens ,Wound healing, Ointment, Evaluation Studies.

Introduction:

Homeopathy emerged in the late 1700s in Germany through the pioneering work of Samuel Hahnemann, who founded it on the principle that the body has the ability to heal itself.
Practitioners of homeopathy administer minute doses of natural substances, such as plants and minerals, believing these substances stimulate the body's innate healing processes. Central to homeopathic theory is the concept of 'like cures like', also known as the 'law of similar', where a substance that produces symptoms in a healthy person can cure similar symptoms in a sick person.

Key texts in homeopathy, such as "Text Book of Materia Medica" by Dr. S. K. Dubey and Allen's Keynotes, have been influential in shaping the field. Hahnemann's seminal work, "Fragmenta de viribus medicamentorum", published in 1805 in Latin, is considered the first materia medica in homeopathic history. His "Organon of Medicine", translated by R. E. Dudgeon from the fifth German edition, further elaborates on the principles and practice of homeopathy.

This article explores how Hahnemann applied his own published works in his early medical practice, focusing on specific patient cases documented in medical casebooks.

Ointments are semi-solid preparations designed to have a specific consistency that allows easy application by rubbing onto the skin. They should be soft and do not need to be melted before use. These formulations, sometimes referred to as therapeutic creams, are applied to the skin to alleviate or treat conditions such as wounds, burns, rashes, scrapes, and various other skin issues.

In contemporary practice, ointments are typically prepared using two main methods:

1. **Fusion method:** This involves melting the base ingredients, such as paraffin or wax, and blending them with medicinal components until a homogeneous mixture is achieved. The melted mixture is then cooled to form the final ointment.
2. **Mechanical incorporation method:** Here, the medicinal substances are mechanically blended into a pre-existing base, like Vaseline or another suitable carrier substance. This method ensures even distribution of the active ingredients throughout the base without the need for melting.

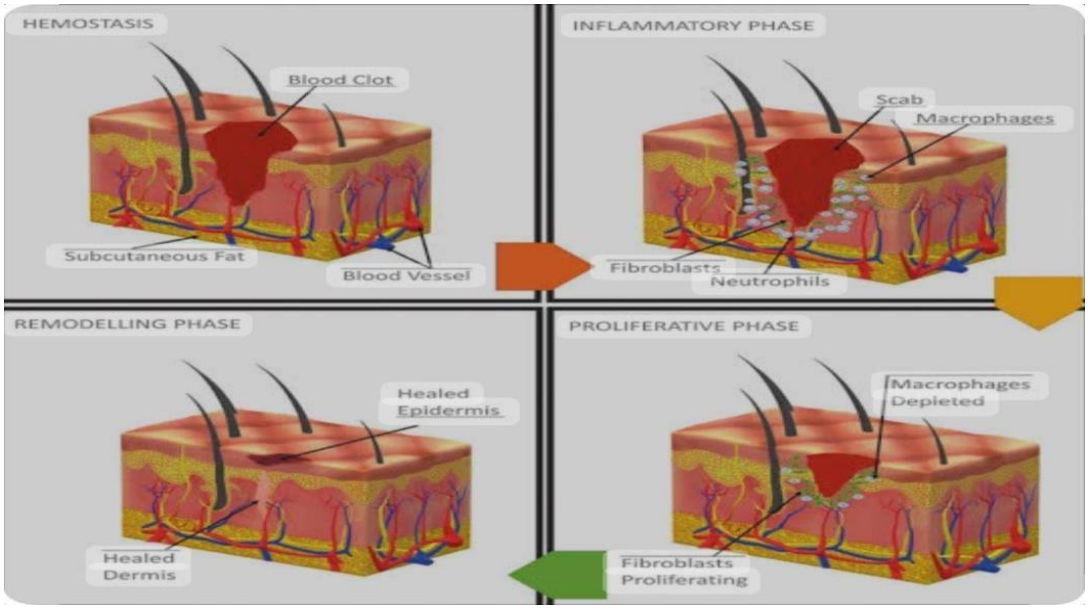
These methods ensure that ointments maintain their desired properties and effectiveness in treating various skin conditions.

Tridax procumbens, commonly known as coat buttons, is a notable medicinal plant
predominantly found in southern and central America. Belonging to the Asteraceae family, it thrives in tropical, subtropical, and mildly temperate climates worldwide. This flowering plant, though considered a widespread weed, offers extensive medicinal benefits. Extracts from the entire plant are

valued for their therapeutic properties, including anti-diabetic, antioxidant, hepatoprotective, and wound-healing effects. It is also utilized in managing conditions such as
kidney stones, liver ailments, and infectious skin infections. Tridax procumbens contains a variety of active compounds such as flavonoids, alkaloids, saponins, tannins, terpenes, kaempferol, and
isoquercetin. Historically, it has been employed in treating ailments like gastritis, blisters, ulcers, jaundice, and respiratory disorders

Fig. Tridax procumbens

Wound are generally as acute or chronic. Chronic wound are generally associated with physiological impairments that slow or prevent wound healing.



Wounds can arise from various sources, such as acute skin injuries like abrasions, punctures, and crushing, as well as from surgical procedures and conditions that cause breakdown of initially intact skin, such as ischemia and pressure. The process of healing for all types of skin wounds typically involves three fundamental mechanisms: contraction, deposition of connective tissue matrix, and epithelialization. In cases where wounds do not close immediately, healing occurs through contraction, where the interaction between cells and the surrounding matrix causes tissue to move inward toward the wound's center.

Material and method :

Material

- Plant material: leaves of Tridax procumbens.
- This plant belongs to class 3, which is characterized as having low juice content. Many American plants fall into this category.

Preparation of Mother Tincture

- **Principle:** The tincture is made by combining two parts by weight of alcohol with one part of the plant material or its part.

Requirements:

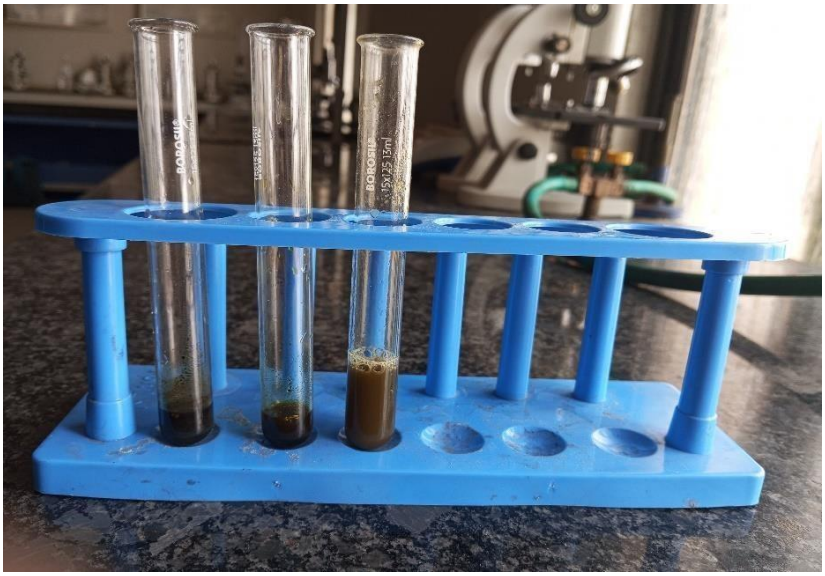
1. **Ingredients:**
- Selected drug substance (Tridax procumbens leaves for the tincture).
- Strong alcohol.
2. **Utensils and apparatus:**
- Wooden chopping board and knife.
- Porcelain mortar and pestle.
- Horn-made spatula.
- Sterilized linen cloth.
- Clean small beaker.
- Glass-stoppered phial.
- Another clean phial with a non-porous velvet cork.
- Filter paper.
- Balance with weight box.
- Writing materials (pen, paper, gums, scissors, etc.).
3. **Procedure:**
- The fresh leaves of Tridax procumbens are cut into small pieces using a polished steel knife on a clean chopping board, then crushed to a pulp using a mortar and pestle.
- The crushed pulp is weighed and placed in a glass jar. Twice the weight of strong alcohol is added.
- Initially, a sixth part of the alcohol is used to moisten the powder. The moistened drug is transferred into a stoppered bottle, and the remaining alcohol is added.
- The mixture is left to stand for 8 days in a cool, dark place.
- After this period, the tincture is poured off, strained through new linen cloth, and filtered.
- Finally, it is poured into a clean phial with a high-quality non-porous velvet cork.

Formulation table of mother tincture

Sr no	ingredients	quantity
1.	Tridax procumbens leaves	15g
2.	alcohol	30ml

2.identification test of mother tincture

1	**flavonoids**	Lead acetate test: The crude extract was taken in a test tube and few drops of lead acetate was added to it.	Formation of yellow coloured precipitate.	Presence of flavonoids
2	**tannins**	Braymers test: 2ml of the crude extract was taken in test tube along with 2ml of distilled water and few drops of 10%Fecl3 was added to it.	Formation of green-black precipitate.	Presence of tannins
3	**Saponnis**	Forth test: 2ml of crude extract was taken in a test tube 4ml of distilled water was added to it,mixed and vigorously.	Formation of stable forth.	Presence of saponnis



Identification test of mother tincture of tridax procumbens

Method Of Prepration Of Ointments:

- Prepartion
- Principle: Combine one part by weight or volume of mother tincture with nine parts by weight or volume of Vaseline.

Requirements:

- Ingredients:

1. Required quantity of mother tincture.
2. Required quantity of white Vaseline.

Appliances:

1. Slab.
2. Spatula.
3. Ointment phial.
4. Balance weight box.
5. Pen, labeling paper, pasting gums, scissors.

Procedure:

1. Weigh the proper quantity of Vaseline and place it on a clean slab.
2. Pour the required quantity of mother tincture over the Vaseline.
3. Mix thoroughly using a spatula until the entire mixture achieves a uniform color.

Modern Method of Preparation of Ointment:

- **Fusion Method:**

1. This method is employed when the ointment base includes substances like white-soft paraffin, spermaceti, or wax.

Fusion method

- They are just melted on a water bath and the required medicine is slowly and the mixture is properly stirred to make it homogenous.
- The mixture is then cooled and become ready for use.

Medicine is slowly added

Table of Formulation

Sr no.	Ingredients	Quantity(10g)
1.	Tridax procumbens(extract)	1%
2.	White soft paraffin	10g

Evaluation of formulation:

- **Physical Evaluation**: The evaluation of these homeopathic ointment formulations involved assessing physical and chemical parameters such as pH, spreadability, viscosity, and color.
- **Color and Odor**: Color and odor were assessed through visual examination.
- **pH**: The pH of the ointment formulation was determined using pH paper, resulting in a pH value of 4.

- **Spreadability**: Spreadability was measured by placing the ointment between two slides and determining the time in seconds it took for them to separate under a specific load. The spreadability (S) was calculated using the formula S = (M.L/T), where M is the weight tied to the upper slide (40g), L is the length of the glass slides (3.5), and T is the time taken to separate the slides (1 minute), resulting in a spreadability value of 140.

Viscosity: Viscosity was assessed using a Brookfield viscometer

RESULT AND DISCUSSION :

Collection of Tridax procumbens

Tridax procumbens (Convolvulaceae) was collected from tropical region.

Formulation of mother tincture of Tridax procumbens

Plant material: Tridax procumbens leaves. This plant belongs class into the class 3 which are least juicy. mostly American plants are included in this class..

Table No 8: Extractive values of Tridax procumbens			
Tidax procumbens	Ethanol	15 gm	25(%w/w)

CONCLUSION :

In Indian system of medicine majority of homeopathic products are made by using crude plant or portion of plant parts and their extracts. The leaves of Tridax procumbens plant belongs to family Asteraceae was collected and authenticated for this present study,
formulated and evaluated the topical ointment and its properties. Physicochemical
parameters of the plant were studied. A phytochemical analysis of the leaves extract was done. The formulations prepared using Tridax procumbens extract was found to be good characteristics with respect to homogeneity, spreadability, pH, viscosity, property. Thus, Tridax procumbens ointment formulation is stable in topical ointment formulation. The results of different chemical and physical tests of homeopathic ointment showed that the formation could be used topically in wound healing.

REFERENCES :

1. Materia medica of homeopathic medicine,Dr.SR.Phatak
2. Textbook of homeopthic pharmacy,mandal and mandal
3. homeopathic pharamacy,M.K.shani M.D and Dr.P.N.Varma.
4. Organon of medicine, Samuel Hahnemann
5. Kondawar VB. A comprehensive review on phytochemistry and pharmacological use of Tridax procumbens Linn. Journal of Pharmacognosy and Phytochemistry. 2019;8(4):01-10.
6. Ghosh P, Biswas S, Biswas M, Dutta A, Sil S, Chatterjee S. Morphological, Ethno biological and Phytopharmacological Attributes of Tridax procumbens Linn.(Asteraceae): A Review. Int. J. Sci. Res. In Biological Sciences Vol. 2019 Apr;6:2.
7. Bhagwat D A, Killedar S G, Adnaik R S. Antidiabetic activity of leaf extract of Tridax procumbens, International Journal of Green Pharmacy, 2008, 126-128.

8. Wani Minal, Pande Snehal, More Nitin. Callus induction studies in Tridax procumbens L." International Journal of Biotechnology Applications. 2010; 2(1):11–4.
9. Nallella, Sreeramulu et al. Ethno-botanicomedicine for common human ailments in Nalgonda and Warangal districts of Telangana, Andhra Pradesh, India".
10. emantKumarNagar,1 AmitKumarSrivastavaPharmacological Investigation of the Wound Healing Activity of Cestrum nocturnum (L.) Ointment in Wistar Albino Rats ,Hindawi Publishing Corporation Journal of Pharmaceutics Volume 2016.
11. Hemant P Jadhav1, Ghanshyam G Chaudhari1 Standardization of homeopathic mother tincture of Toxicodendron pubescens and correlation of its flavonoid markers with the biological activity Hemant P Jadhav1, Ghanshyam G Chaudhari,Homeopathy (2016) 105,Published by Elsevier Ltd.
12. Shankul Kumar*1, Anuradha Prasad,Pharmacognostical, Phytochemical and Pharmacological Review on Tridax procumbens Linn,International Journal of Pharmaceutical & Biological Archives2012; 3(4):747-751
13. Vamsi S, Satish C, Nagaveni K,Formulation and Evaluation of PolyherbalWound Healing
14. ,Ointment,International Journal of Pharma Research & Review, April
15. ***Ashokrao Mane Institute Of Pharmacy, Ambap 31***
16. 2014; 3(4):66-73
17. .A.Taddei and A.J. Rosas-Romero,Bioactivity studies of extracts from Tridax procumbens,Phytomedicine, Vol. 7(3), pp. 235-238
18. .VCBhagat and MS Kondawar.A comprehensive review on phytochemistry andpharmacological useofTridax procumbens Linn,Journal of Pharmacognosy and Phytochemistry 2019; 8(4): 01-10