RED SPIDERLING OINTMENT: TREASURE OF NATURE

(HEALING COMES FROM NATURE)

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Abstract: For the treatment of skin problems, a variety of topical dermatologic treatments, ranging from solids to liquids, are offered. The majority of ointments are made of base, which primarily serves as a vehicle or carrier for the medications. The choice of ointment is a crucial component of formulation because the type of the base also affects how well it works. In contrast to fatty alcohols, traditional ointment bases have been oleaginous in nature, consisting of hydrocarbons like petrolatum, beeswax, and vegetable oils that do not permit the addition of any water. Topically applied ointments can serve a variety of functions, including protective, antimicrobial, emollient, antipruritic, keratolytic, and astringent. If the end product is to fulfill any of the aforementioned functions, the base of the ointment is crucial. The ointment base composition regulates the transfer of medications from the base to the human tissues as well as the depth of penetration.

Key Words: Antimicrobial, ointment.
I. INTRODUCTION

Edema

Edema is the medical term for swelling caused by fluid trapped in your body’s tissues. Edema happens most often in your feet, ankles, and legs, but can affect other parts of your body, such as face, hands and abdomen.

Treatment By Naturally Obtained Plant:

Fig. Edema

Fig. Punarnava plant
Macroscopic characters of punarnava:

- **Stem**: Greenish purple, stiff, slender, cylindrical, swollen at nodes, minutely pubescent or nearly glabrous, prostrate divaricately branched, branches from common stalk, often more than a metre long.

- **Roots**: Well developed, fairly long, somewhat tortuous, cylindrical, 0.2-1.5 inches in diameter, yellowish brown to brown coloured, surface soft to touch but rough due to minute longitudinal striations and root scars, fracture, short, no distinct odour, taste, slightly bitter, sweet, pungent.

- **Leaves**: Opposite in unequal pairs, larger ones 25-37 mm long and smaller ones 12-18 mm long ovate – oblong or suborbicular, apex rounded or slightly pointed, base subcordate or rounded, green and glabrous above, whitish below, margin entire or subundulate, dorsal side pinkish in certain cases, thick in texture, petioles nearly as long as the blade, slender.

- **Flowers**: Very small, pink coloured, nearly sessile or shortly stalked, 10-25 cm, in small umbells, arranged on slender long stalks, 4-10 corymb, axillary and on terminal panicles, bracteoles, small, acute, perianth tube constricted above the ovary, lower part greenish, ovoid, ribbed, upper part pink, funnel-shaped, 3 mm long, 5 lobed, stamen 2-3.

- **Fruit**: One seeded nut, 6 mm long clavate, rounded, broadly and bluntly 5 ribbed, viscidly glandular.

**Phytochemicals**

Generally whole plant consists the following phytochemical constituents, those are punarnavine (Alkaloids), B-sitosterol (Phytosterols), liriodendrin (lignans), punarnavoside (roteboids), boerhavine (xanthones) and potassium nitrate (salts).
**Beta-sitosterol**

Beta – sitosterol (SIT) is a bioactive phytosterol that are naturally present in plant cell membranes with chemical structure similar to mammalian cell – derived cholesterol. They are highly present in lipid–rich plant foods such as nuts, seed, legumes, and olive oil.

**Materials and methods :**

1. **Material:**
   - **Requirements:**
     Soxhlet apparatus, spatula, heating mantle, stand, extract separator, funnel, filter measuring cylinder, beaker, measuring cylinder, evaporating dish, water bath, leaves of Punarnava.
   - **Chemicals:**
     Woolfat, cetostearylalcohol, hard paraffin, yellow soft paraffin, camphor

2. **Method:**
   - **Collection & drying:**
     Leaves of Punarnava were collected from the local area from Ahmednagar. Cleaned and dried at room temperature in shade and away from direct sunlight. The dried leaves were coarsely powdered in a grinder. Large difference in particle size of crude drug result in long extraction time as the course particle increase the extraction time and fine powdered material was sieved through 60-120 mesh to remove fines and large particles and the powder was subjected for further study.

*Fig. Dried leaves of Punarnava*
1. **Ethanolic extract:**

The leaf of Punarnava were dried under shade at room temperature for seven days and powdered it by the use of grinder and were sieved through sieve no. 40 to get the coarse powder (100 gm) and was extracted with ethanol as solvent by soxhlet apparatus and filtered then obtained extracted was concentrated and stored in vacuum desiccator. The obtained yield was calculated.\(^8\)

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**Fig. Extraction using Soxhlet apparatus**

**Fig. Organic layer separation**
THINLAYER CHROMATOGRAPHY

**Principle:**

The principle of separation is adsorption. It is a reliable technique in which solute undergoes distribution between two phases, stationary phase and mobile phase. The mobile phase flows through because of capillary action (against gravitational force). The compounds having higher affinities towards the stationary phase eluted slower whereas the compound having lesser affinities towards stationary phase eluted faster.

**TLC plate preparation:**

The plates were prepared by using Silica gel G. 40 gm of Silica gel G was mixed with 85 ml of water to prepare homogenous suspension and poured in the spreader. The plates were prepared, air dried until the transparency of the layer disappeared, then dried at 110 degree C for 30 minutes and kept in desiccators.

**Selection of mobile phase:**

Solvent mixture was selected on the basis of the phytoconstituents present in each extract. Factors such as nature of components, stationary phase, polarity, influence the rate of separation of constituents was considered. From the vast analysis, best solvents were selected which showed good separation with maximum number of components.

\[ R_f \text{ value} = \frac{\text{Distance travelled by solute from the baseline}}{\text{Distance travelled by solvent from the baseline}} \]
**Formulation of ointment:**

*Formulatable:*

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Quantity Taken</th>
<th>Role of ingredients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Woolfat</td>
<td>2.5 gm</td>
<td>Emollient</td>
</tr>
<tr>
<td>Cetostearyl alcohol</td>
<td>2.5 gm</td>
<td>Emulsifying agent</td>
</tr>
<tr>
<td>Hard paraffin</td>
<td>2.5 gm</td>
<td>Emollient</td>
</tr>
<tr>
<td>Yellow soft paraffin</td>
<td>40 gm</td>
<td>Ointment base</td>
</tr>
<tr>
<td>Camphor</td>
<td>1 gm</td>
<td>Counterirritant</td>
</tr>
<tr>
<td>Extract</td>
<td>1.5 gm</td>
<td>Anti-edema</td>
</tr>
</tbody>
</table>

**Procedure:**

1. Accurately weigh all the ingredients and extract as well.
2. Add hard paraffin and cetostearylalcoholin evaporatingdish.
3. Melt above mixture on waterbath.
4. Then add wool fat and yellow soft paraffinin to the previous mixture.
5. Then add sufficient quantity of the extract.
6. Remove from the water bath and cool.
7. Transfer it in to a suitable container and label.
Fig. Punarnava ointment

Category:
Anti-edema, Anti-inflammatory.

Storage:
It should be stored in the tightly closed and completely filled containers.

Precautions:
1. Hypersensitivity to any of the component, then stop the use of ointment.
2. Avoid contamination during use.
3. Do not allow the open mouth of container to come in contact with any.
4. Keep away from children.

4. Evaluation

Physical examination:
- Colour: Yellowish White
- Odour: Aromatic
- Texture: Smooth
- State: Semisolid

Determination of pH:
- pH = 5.5

Rubout:
It included spreadibility and wetness. A 0.1gm of ointment was applied on skin surface of human volunteer and the properties were observed.

Skin sensitivity test:
The skin sensitivity showed no irritation, redness indicating that ointment is non-irritant.
Pharmacological activities:

- Immunomodulatory effects
- Immunosuppressive effects
- Antidiabetic activity
- Anti-metastatic activity
- Antioxidant activity
- Antiproliferative activity
- Analgesic & anti-inflammatory activity
- Anti-viral activity
- Hepatoprotective activity
- Antibacterial activity
- Anti-fibrinolytic activity
- Bronchial asthma

Therapeutic uses:

- It is good for liver.
- It fights against obesity.
- It is good for diabetes.
- It prevents heart failure.
- It cures importance.
- It is a remedy for urinary tract infection.
- It is diuretic.
- It is good for the eyes.
- It is great for arthritis.
- It helps with stomach disorders.
RESULT:

50gm of Punarnava Ointment was prepared, evaluated, and submitted.

CONCLUSION:

As the name affirmed, Punarnava (Punar+Nava). Punar means once again, navamans becoming new, really because of its multiple benefits and pharmacological actions, Punarnava proved itself as magical nature remedy by Ayurveda. Further research needs to be undertaken to establish the authenticity of activities will be assured by pharmacological activity.

FUTURESCOPE

- World wide herbal drug industry is growing up at a fast speed.
- Herbal medicine is defined as a branch of science in which plant based formulations are used to alleviate the diseases.
- In the early 20th century, when synthetic analgesics were not yet widely available, herbal medicine was the predominant mode of treatment.
- With increase in use of allopathic system of medicines, herbal drugs gradually lost its popularity among people.
- Almost a century has passed and it has witnessed limitations of allopathic system of medicines.
- Lately herbal medicines has gained momentum and it is evident from the fact that certain herbal remedies are more effective.
- WHO has stressed on the need of better utilization of the indigenous system of medicines which is based on the local availability of the medicinal plants in the country. Therefor ether eistremendous increase in the use of plant derived products.
- Drug development from the medicinal plants is cheaper as compare to synthetic drug development.
- There has been increased demand of raw medicinal herbs of Indian origin from western countries.
REFERENCES

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