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A Review on Nirgundyadi Dhoopan and Its Medicinal Properties

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ABSTRACT
Nirgundyadi Dhoopan is a classical Ayurvedic fumigation formulation mentioned in various ancient texts, notably the Sushruta Samhita. It is primarily used for its antimicrobial, wound healing, anti-inflammatory, and deodorizing properties. This review explores the ingredients, mode of action, indications, and recent scientific validations of NirgundyadiDhoopan. Emphasis is placed on its role in managing Dushta Vrana (chronic infected wounds), Shalya Tantra practices, and hospital disinfection protocols.
Keyword: NirgundyadiDhoopan, Dushta Vrana, Shodhan, Medicinal Properties.

I. INTRODUCTION

In Ayurveda as well as In Sushruta Samhita there is a detailed description of Shodhana (purification) and Rakshana (prevention). Dhoopan, or medicated fumigation, is a vital procedure recommended for Vranashodhana, Vranaropana, Krimi Nashana, and maintaining asepsis in the surgical environment. Among many formulations, NirgundyadiDhoopan holds a significant place.The formulation is referenced in the Sushruta Samhita, Chikitsa Sthana 1/135, where it is prescribed for Vranadhoopan (fumigation of wounds). This review analyzes the medicinal properties of each component and provides a scientific basis for its usage.

Ingredients of NirgundyadiDhoopan
The classical composition includes:
1. Nirgundi (Vitex negundo)
2. Guggulu (Commiphora mukul)
3. Sarshapa (Brassica campestris)
4. Arka Patra (Calotropis procera)
5. Haridra (Curcuma longa)
6. Vacha (Acorus calamus)
7. Lodhra (Symplocos racemosa)
8. Devadaru (Cedrus deodara)
9. Tagara (Valeriana wallichii)
10. Jatamansi (Nardostachysjatamansi)

These herbs are powdered, mixed with ghee, and used for fumigation of wounds or operating rooms.

Pharmacological Properties of Key Ingredients

Herb	Major Action	Scientific Evidence
Vitex negundo	Anti-inflammatory, antimicrobial	[1]
Commiphora mukul	Antiseptic, anti-inflammatory	[2]
Calotropis procera	Wound healing, analgesic	[3]
Turmeric	Antioxidant, antiseptic, healing	[4]
Acorus calamus	Antibacterial, deodorizer	[5]
Symplocos racemosa	Astringent, promotes granulation tissue	[6]
Cedrus deodara	Disinfectant, Krimighna (anti-parasitic)	[7]

Aim and Objective
To discuss,evaluate and elaboration on medicinal properties of NirgundyadiDhoopan.

Mechanism of Action
Antimicrobial effect: The volatile oils and smoke particles inhibit microbial growth.
Anti-inflammatory effect: Reduces local inflammation in infected wounds.
Deodorizing effect: Absorbs foul odor from Dushta Vrana.
Granulation promotion: Accelerates healing by stimulating tissue regeneration.
Aseptic environment: Fumigation of surgical areas helps prevent nosocomial infections.

Clinical Indications
Dushta Vrana (Chronic infected wounds)
Post-operative wound management
Diabetic foot ulcers
Pilonidal sinus
Pre-operative and post-operative surgical room sterilization

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Method of Application

1. The powdered drugs are made into a wick with ghee or cow dung base.
2. The wick is ignited and placed near or around the affected wound.
3. The patient is exposed to the smoke for 5–10 minutes under supervision.
4. Room fumigation can be done by burning in a closed chamber for 15–30 minutes.

Recent Research and Validation

Study by Patil et al. (2017) demonstrated that NirgundyadiDhoopan significantly reduced microbial load on infected wounds and promoted faster healing compared to conventional dressing.

A study in AYU Journal (2020) showed fumigation with NirgundyadiDhoopan reduced Staphylococcus aureus and E. coli load in operation theatres.

Comparative study: Dhoopan vs Betadine dressing found better granulation tissue formation and odor control in the Dhoopan group.

Safety and Precautions

Not advised for patients with asthma or smoke sensitivity.
Adequate ventilation must be maintained post-dhoopan.
Should be supervised by a physician trained in Ayurvedic surgery.

II. CONCLUSION

Nirgundyadi Dhoopan is a time-tested Ayurvedic formulation with significant wound healing, antimicrobial, and anti-inflammatory properties. Its integration in modern wound care and hospital infection control protocols can offer a holistic and cost-effective solution, especially in chronic wound management.

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