



ISSN (E): 2277- 7695

ISSN (P): 2349-8242

NAAS Rating: 5.03

TPI 2019; 8(1): 282-284

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www.thepharmajournal.com

Received: 04-11-2018

Accepted: 08-12-2018

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Sariva shankhanabhi churna: A topical dusting powder for diaper dermatitis

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Abstract

Advanced technology and related facilities available for the skin care of infants have got their own advantages and disadvantages in the community health. Diaper dermatitis is one such condition which creates significant parental stress and discomfort in suffering child. In spite of various emollients, barrier creams usage, incidence rate seems to be unaltered. *Sariva Shankhanabhi* dusting powder, named as per the ingredients in it, aims at symptomatic reduction in decreasing the irritability in a child. Form of medication, easy administration, cost effectiveness and safety are of high concern while planning treatment. Hence the fine dusting powder was prepared using modern pharmaceutical equipments.

Keywords: diaper dermatitis, discomfort, infants, dusting powder, administration, safety

Introduction

Ahiputana is one among the diseases mentioned in an asset of *Kshudra Rogas* by Acharya Susruta^[1], specially seen in children as per Vriddha and Laghu Vagbhata^[2]. The particular disease represents the local inflammatory response in the diaper area due to excess sweating, inadequate cleaning, local irritation by diaper, urine or feces etc. Immature and tender skin texture of an infant shows susceptibility towards various diseases, one such is Diaper dermatitis. According to Acharya Harita^[3], how the poison of a serpent even in smaller quantity is powerful or sufficient enough to kill a person, similarly a *Sookshma* or *Kshudra Roga* acts as an enemy to the Shareera just like a minute spark which can kindle or destroy everything. This indirectly gives a hint, not to ignore the disease thinking it as less severe and to treat it as early as possible effectively. Hence, a classically described formulation *Sariva Shankhanabhi* Churna was selected. This article explores the methodology adopted for the preparation of the compound.

Materials and Method

Ingredients of the formulation:

1. *Sariva*
2. *Shankhanabhi*

Sariva^[1] (*Hemidesmus indicus* R. Br.)

The roots of *Sariva* contains the coumarino-lignoids hemidesminine, hemidesmine 1 and hemidesmine 2; α sitosterol; the terpenoids α amyryrin, β amyryrin, β amyryrin acetate, lupeol, lupeol acetate and lupeol octacosanoate; 2-hydroxy-4-methoxy-benzaldehyde; drevogenin- β -3-o- β -D- olandropyranosyl (1-4)- β -D-olandropyranoside (desinine)^[4].

Properties and action of *Sariva*^[5]

Rasa- Madhura, Tikta
Guna- Guru, Snigdha
Virya- Sheeta
Vipaka- Madhura
Dosha karma- Tridoshahara
Used part- Root

Shankha^[2] (Conch shell)

Shankha is a hard calcareous shell of the species of large predatory sea snails, which is the largest class of molluscus⁶. 95% of calcium salts like calcium carbonates and 5% of organic

matters are present in it.

Properties and action of Shodhita Shankha [7]

Guna- Laghu, Ruksha, Teekshna

Virya- Ushna

Vipaka- Katu

Karma- Digestive, eliminates Amlapitta (gastritis), Shoola (abdominal colic)

Used part- Shankhanabhi

Collection and authentication of raw drugs

The raw drug, *Shankhanabhi* was collected from the SDM Pharmacy of Ayurveda, Udupi, Karnataka state, India. The dried roots of *Sariva* are collected from Anamaya Herbals, Udupi, Karnataka state, India. The drug analysis and standardization were done at SDM centre for Research in Ayurveda and Allied Sciences, Udupi, Karnataka state, India.

Method of preparation

4kgs of the dried *Sariva* roots (Figure 1) were collected from the source and powdered into fine powder consistency. Filtered through single layered Cora cloth and preserved in an airtight container. 4.2kgs of crude drug *Shankhanabhi* (Figure 2) were taken. *Shodhana* (a process of purification) was done by keeping the *Shankhanabhi* pieces in a poultice dipped in 6 Liters of *Amlakanji* (Figure 3) without touching the bottom of the vessel and boiled for 3 hours (Figure 4). *Kanji* was poured slowly when the amount of *Kanji* was reducing by evaporation during the process. The total quantity of *Amlakanji* used was 10 Liters. At the end of 3 hours *Shankhanabhi* were collected and washed in hot water – the process of which removed most of the external impurities from the drug and shade dried. Finally 4kgs of purified *Shankhanabhi* were obtained (Figure 5). Initially these were manually powdered; later fine powder (Figure 6) was prepared in SDM Pharmacy. The fine powder obtained was filtered in single layered Cora cloth; later roasted or dry heated in mild flame (Figure 7) and the product is preserved in an airtight container.

Equal quantity of *Sariva* root fine powder (Figure 8) and purified *Shankhanabhi* fine powders were mixed well (Figure 9), the combination of which passed through mesh no.85, later filled in plastic containers and sealed. Then the containers are labeled and made easy for distribution.



Fig 1: *Sariva* root



Fig 2: Impure *Shankhanabhi*



Fig 3: *Amlakanji*



Fig 4: *Shankhanabhi Shodhana*



Fig 5: *Shuddha Shankhanabhi* after washing in hot water & drying



Fig 6: *Shuddha Shankhanabhi* Powder



Fig 7: Roasting *Shankhanabhi*



Fig 8: Sariva root powder



Fig 9: Sariva Shankhanabhi Churna

Organoleptic parameters of finished product

- Colour: Light brown colour
- Consistency: Fine powder
- Smell: Specific odour of Sariva

Discussion

Churna Kalpana in Ayurveda is described concentrating more on its internal usage. Even though the description of *Avachurnana*/dusting is available in classics, accurate measures for their preparation, dosage and duration of treatment are less highlighted. The use of fine *Shankhanabhi* powder for the external purpose was based on the reference of *Shankhanabhi* used in the *Chandrodaya Varti* preparation, taken from the *Sharangadhara Samhita* [8], where in *Shankhanabhi* after purification will be subjected for *Bharjana* (roasting) - the purpose of which may be to obtain finest form of powder without *Bhaskarana* (incineration) which will be more Teekshna after incineration. Sariva root with its antimicrobial, anti-inflammatory properties helps in reduction of symptoms of uncomplicated Diaper dermatitis, also helps in reducing the alkalinity of *Shankhanabhi* and making the final product more convenient, safe to the tender or immature skin of a child without interrupting the normal pH of skin along with its normal bacterial flora and facilitates the faster healing.

Conclusion

Herbo-mineral preparation used internally or externally has its own mode of action based on the synergism, type of formulation used, age of patient, maturity of target tissue etc. Analytical and standardization procedures are necessary to confirm their efficacy along with the clinical evidences. Just like the comparative studies on efficacy of purified *Shankha*, *Shankhanabhi* as well as their incinerated forms, both as internal and external usage forms will add on to the existing knowledge. Available informations on toxicity of various dusting powders specially in an age group of children should also be considered, advocated in clinical practices and

validated timely.

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