

## AN EXPERIMENTAL STUDY ON EFFECT OF TILA-NAVINITADI LEPA AS ANTIDOTE IN CASE OF LOCAL TOXICITY OF BHALLATAKA

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### ABSTRACT

*Bhallataka* is included in *Upvisha varga* by *Rasatarangini* and *Dhanwantari nighantu* as well. Every drug has some therapeutic as well as toxic effects. *Bhallataka* is used internally as well as externally. The fruits, their oil and the seeds have great medicinal value, and are used to treat the wide range of diseases. *Ayurveda* has mentioned that *Bhallataka* is extremely hot and sharp in its attributes; it should be used with caution.

Hence while handling *Bhallataka* during *kalpa* preparation in *Vaidya's* own medicine/Clinic set up there are chances of spilling of oil of *Bhallataka* accidentally over the body which may cause them to suffer from local actions like irritation, blister formation, swelling etc. That's why *Tila-Navnitadi Lepa* was selected from *Rasajalanidhi* book to cure sign and symptoms arising from *Bhallataka* local toxicity. In this study animal experiment was carried out and after experiment animals were sacrificed for histopathological examination purpose. Hence an attempt was made to study the effect of *Tila-Navnitadi lepa* against local toxicity of *Bhallataka* through this article.

**Keywords:** *Visha, Nighantu, Til, Navnit, Lepa.*

### INTRODUCTION

*Ayurvedic* system of medicine is well known since *Vedic* period. This system of medicine involves the use of plant parts, animal products, mineral and metals. *Visha* (poison) is a *dravya*, which when enters the body spreads fast and vitiates and causes acute damage to *dhatu*s like *rasa, rakta*, etc. and *doshas* there by destroys life. *Bhallataka* is included in *Upvisha varga* by *Rasatarangini* and *Dhanwantari nighantu* as well. Nowadays many *vaidyas* uses *Bhallataka* in various self-prepared

*Ayurvedic kalpas*. *Bhallataka* is one of the best, versatile, most commonly used herbs as a household remedy. It has been freely used all over India since centuries. It was held in high esteem by the ancient sages of *Ayurveda*. Hence while handling *Bhallataka* during *kalpa* preparation in physician's own medicine/Clinic set up there are chances of spilling of oil of *Bhallataka* accidentally over the body which may cause *vaidyas* to suffer from local actions like - Irritation, Discoloration, Swelling, Erythema

(redness), Tenderness, Blister formation etc. Modern science don't have specific antidote or drug to cure local toxicity caused by *Bhallataka* as they can use only povidine and dettol or savlon for cleaning locally and lots of oral drugs like pain killers, antibiotic, antacid. So *Ayurveda* has mentioned better treatment which is cheap and have easily available sources of drugs than modern science.

So as to treat these signs Acharya have mentioned many treatment one of which is given in *Rasajalnidhi*. *Tila-Navnitadi* lepa is described against local toxicity of *Bhallataka* in *Rasajalnidhi*. Swelling and irritation due to *Bhallataka* poison is pacified by external application of butter (*Navnit*), Milk (*Godugdh*), *Gud* (jaggery, molasses- purified and condensed into a tawny coloured lump), *Tila*

**AIM:**

To Study action of *Tila-Navneetadi lepa* against local action of *Bhallataka* (*Semicarpus anacardium* Linn.) in Albino mice

**OBJECTIVES:**

1. To study the signs produced by *Bhallataka* (*Semicarpus anacardium* Linn.) locally in Albino mice.

2. To obtain *Bhallataka* oil extract for local application purpose in Albino mice.

**MATERIAL AND METHOD:**

This experiment required raw Material and instruments to process raw material etc.

**1) Crude Material:**

*Bhallataka* fruits, 500 gms, *Tila* 100 gm, *Navnit* produced from cow's milk, 100 ml, *Gud* 100 gm, *Godugdh* 100 ml. Oil from *Bhallataka* was removed by punching needle and paste was made from rest of the content mentioned above.

**2) Instruments:**

Iron nail/needle (large bore), Ear buds, Plastic jar (2 L capacity), Ladle, tray, zipped polythene bags, brick powder, large clothes, water, shade, tissue papers, markers, chopper, crusher, containers, hand churner, spoons, air tight container, refrigerator etc.

**EXPERIMENTAL STUDY**

Study was done in albino mice as per O.E.C.D. guidelines. (Guideline no.402).

**Table 1:**

|                           |  |
|---------------------------|--|
| Animal species was used   | Albino-Mice  |
| Sex of animals to be used | 50% males and 50% females (nulliparous) in each group was taken. |
| Average weight of animals | 20-40 gms.   |
| No. of animals            | 06 mice for each group   |
| No. of groups             | 02   |

Two groups were done for Experimental purpose which includes control Group and Experimental group.

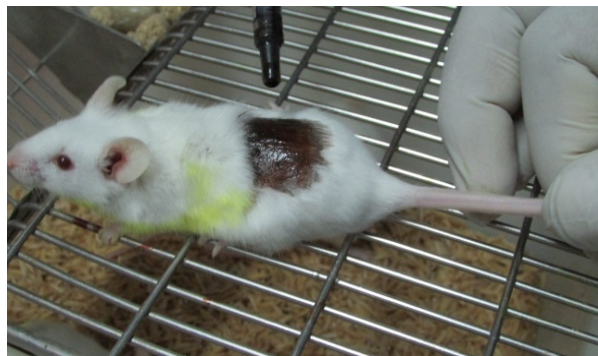
In Control group Only *Bhallataka* oil was applied locally and after observation of signs area was cleaned with warm water swab (Only once), and in Experimental group *Bhallataka* oil was applied locally and after observation of signs *Tila-*

*Navnitadi lepa* was applied at the site in Albino Mice. (Twice a day for seven days). 6 male and 6 female mice were taken and marked with the help of picric acid for easy identification purpose.

Then *Bhallataka* oil soaked swab applied over pre marked area over back region of albino mice thoroughly. Signs were observed and observations were noted carefully. After complete formation of

local signs (after 2 hrs) first dose of *Tila-Navnitadi lepa* (Freshly prepared) was applied to each mouse. *Tila-Navnitadi lepa* was applied twice a day in experimental group with the help of cotton swab,

over shaved area, twice a day (morning 10 a.m. and evening 8 p.m.) for the period of seven days. On 8<sup>th</sup> day histopathological examination of both groups was performed after sacrificing the animal.



**Fig 1:** Application of *Bhallataka* oil,



**Fig. 2:** Control vs Experimental group.

After experimental study in albino mice we compared both groups which were control and experimental on 4 parameters which were discoloration, erythema, swelling and tenderness.

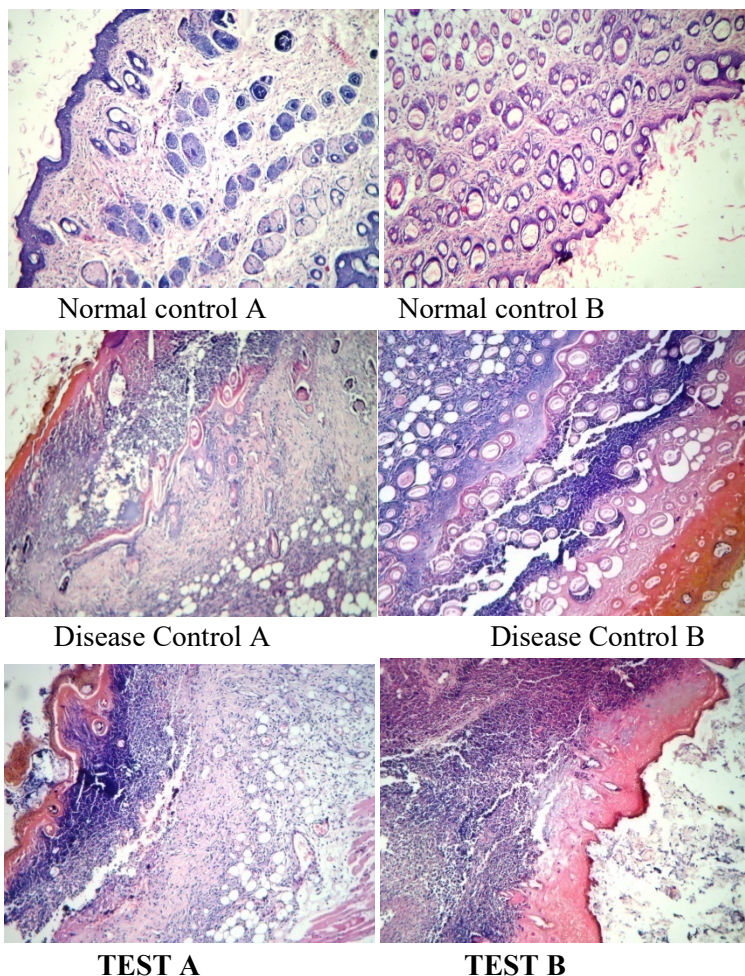
**Table 2:** Comparison between Control and Experimental Group

|               | Group        | No. | Mean Rank | Sum of Ranks | Mann-Whitney U | P-Value |
|---------------|--------------|-----|-----------|--------------|----------------|---------|
| Discoloration | Control      | 6   | 5.00      | 30.00        | 9.000          | 0.093   |
|               | Experimental | 6   | 8.00      | 48.00        |                |         |
|               | Total        | 12  |           |              |                |         |
| Erythema      | Control      | 6   | 6.50      | 39.00        | 18.000         | 1.000   |
|               | Experimental | 6   | 6.50      | 39.00        |                |         |
|               | Total        | 12  |           |              |                |         |
| Swelling      | Control      | 6   | 4.50      | 27.00        | 6.000          | 0.030   |
|               | Experimental | 6   | 8.50      | 51.00        |                |         |
|               | Total        | 12  |           |              |                |         |
| Tenderness    | Control      | 6   | 4.17      | 25.00        | 4.000          | 0.014   |
|               | Experimental | 6   | 8.83      | 53.00        |                |         |
|               | Total        | 12  |           |              |                |         |

For comparison between effect of control group and experimental group we have used Mann Whitney U test. From above table we can observe that P-Values for Discoloration and Erythema are greater than 0.05 while P-Values for Swelling and Tenderness is less than 0.05 hence we conclude that there is significant difference in both groups for swelling and tenderness, Hence, it proves that result in experimental group was more significant than control group.

### HISTOPATHOLOGICAL EXAMINATION REPORT:

In the end we performed Histopathological examination from the reports we concluded that there was very mild healing in control group but in experimental group there was mild to moderate healing than observed in control group which means antidote given in experimental group shows good results of healing.



## DISCUSSION

Confident use of *Bhallataka* externally is only possible when one have sufficient regimens/drugs in his basket. *Bhallataka* included in *deepaniya*, *mootrasamgrahaneeyagana*.

*Bhallataka tailavirechan* is described in *charaka vimaansthana*. *Madhavnidankara* has described that *shotha* produced by *bhallataka* as *aagantushotha*. According to modern science it causes inflammation and swelling caused by *Bhallataka* can be termed as indurations. Local action of *Bhallataka* can also be considered as chemical burn.

It was observed that discoloration occurs immediately after application of *Bhallataka* oil. Swelling was observed with increased thickness of skin and can also be termed as indurations in present study. It was observed visually and by

palpation. Erythema was redness of skin and can be observed only at borders of lesion due to dark discoloration. Tenderness was assessed by palpation. There was a significant difference between Control and Experimental group on day 7 on discoloration, swelling and tenderness. Erythema was absent in Control and Experimental group on day 7.

## CONCLUSION

Hence, from above Experiment, we concluded that *Tila-Navnitadi lepa* is effective against local action of *Bhallataka* in Albino mice.

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**Conflict Of Interest: None Declared**

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