A CLINICAL STUDY TO EVALUATE THE EFFICACY OF TRIPHALADI TAILA IN THE MANAGEMENT OF DARUNAKA W.S.R. TO DANDRUFF AND SEBORRHEIC DERMATITIS

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ABSTRACT
Dandruff is a skin disorder that mainly affects the scalp. Dandruff is the most common scalp disorder in adolescence (post-pubescence) and adulthood, but is rare and mild in children. It is characterized by flakes, itching, dryness and hair fall and in Ayurveda, it is due to the vitiation of vata and kapha dosha. This disease has a high prevalence rate and frequent relapses. Dandruff is found to affect 50% of the world population. In Ayurveda the nearest correlation of dandruff can be made with “Darunaka”. Darunaka is the non-inflammatory type of Seborrheic dermatitis. It is a disease concerned to hair root which is the most common cause for hair loss. Keeping all these facts in the background, the present clinical study is designed to evaluate the effect of classical yoga described by the Acharya in their respective texts for the management of Darunaka which is Triphaladi taila. The study was conducted in 30 clinically diagnosed patients having classical sign and symptoms of Darunaka. The Group was comprised of 30 patients administered with Triphaladi taila (ext. application) for 30 days. The study design was prospective, open label and interventional. From the observations and results it can be concluded that drug shows highly significant results in almost all the classical signs and symptoms of Darunaka very effectively.

Keywords: Darunaka, Dandruff, Seborrheic Dermatitis, Triphaladi taila.

INTRODUCTION
Ayurveda is one of the most ancient systems and holistic health science of life, health and care donated to humanity by the perfect Indian heritage. There are nineteen diseases described by acharya Vagbhatt in shiroroga pratishedha adhyaya, they are 9 kapala Roga and 10 shiroroga. According to acharya Vagbhatt³ and Acharya Sarangadhara⁴, Darunaka is a kapalagataroga but Sushruta⁵ and other Acharya explained this disease under kshudra Roga. Vagbhatt has described this disease in the shiroroga, the 23rd chapter of Uttar Tantra⁶. Acharya Sushruta mentioned about this disease in Nidana Sthana chapter 13, kshudraroga. Acharya Charaka has not mentioned the disease directly; however, in the 26th chapter of chikitsasthana, Samprapti of Darunaka is given in sirah kapalagataroga without naming. Madhavanidana⁸ has mentioned this disease in chapter 55 of second part named kshudrarogaprakaran.
In *Sarangadhara samhita*, the disease is mentioned in the 7th chapter of 1st khanda. In *Bhava prakasha*, *Darunaka* is described in *Kshudraroga adhikar* Dandruff is a skin condition that mainly affects the scalp. Dandruff is the most common scalp disorder in adolescence (post-pubescence) and adulthood, but is rare and mild in children. Historically, it was thought that about 50% of humans were affected to some degree, with onset at puberty and peak incidence and severity at about 20 years of age and becoming less frequent after the age of 50. Dandruff and Seborrheic Dermatitis are common disorders affecting the scalp that is often associated with itching and can be an embarrassing condition. These two diseases have a high prevalence rate and frequent relapses. Dandruff is found to affect 50% of the world population. In *Ayurveda* the nearest correlation of dandruff and Seborrheic dermatitis can be made with “*Darunaka*”. *Darunaka* is the non-inflammatory type of Seborrheic dermatitis. It is a disease concerned to hair root which is the most common cause for hair loss. *Darunaka* is characterized by *Tvak sphuṭana* (scaling of the scalp) *kandu* (itching), *Rukshata* (dryness and roughness of scalp), *keshachyuti* (diffuse hair falling), *daruna* (difficulty in tolerance), *svapa* (loss of touch sensation) and all these symptoms are due to vitiation of vata and kapha dosha.

**AIM AND OBJECTIVE:**
To evaluate the efficacy of *Triphaladi taila* in the management of *Darunaka w.s.r* to Dandruff and Seborrheic Dermatitis.

**MATERIAL AND METHOD:**
Selection of the patients: In this study the patients presenting with *Darunaka* (Dandruff and Seborrheic Dermatitis) registered from OPD and IPD of NIA Hospital, Satellite and Bombaywala Hospitals and outreach camps organized by NIA was taken. The selection of cases was done on the clinical features and supported by laboratory findings. In this study non-inflammatory type of seborrheic dermatitis patients were taken into considerations. A written information and consent form had been given to the patients. The patients were explained about the purpose, procedures and possible side-effects of the trail. Total 30 patients were registered for the study and had completed the trial.

**SELECTION CRITERIA:**

(a) **Inclusion criteria:**
1. Male or female between age 16 to 70 years and willing to give their written informed consent.
2. No major systemic disease involved.
3. Patients who have signs and symptoms of *Darunaka*.

(b) **Exclusion criteria:**
1. Patients having other skin diseases like psoriasis, atopic dermatitis, pregnancy, lactation, immunodeficiency states and hypersensitivity.

**Assessment criteria:**

**Subjective Parameters**
The assessment will be done on the basis of following parameters according to Proforma.
1. *Tvak sphuṭana* (Scaling or Flakes)
2. *Kandu* (Itching)
3. *Kesha bhumi rukṣhata* (Dryness)
4. *Keshachyuti* (Hair fall)
5. *Daruna* (Difficulty in tolerance)
6. *Svapa* (Loss of touch sensation)

**Objective Parameters:**
CBC, ESR, FBS/RBS, TEC.

**Trail Drug:**
Table 1: *Triphaladi Taila* (Bh.R.Kshudraroga chikitsa 55/126)

<table>
<thead>
<tr>
<th>S. No</th>
<th>Name of the constituent</th>
<th>Botanical Name</th>
<th>Part used</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Amalaki</td>
<td>Emblica Officinalis Gaertn.</td>
<td>Fruit</td>
<td>1 part</td>
</tr>
<tr>
<td>2.</td>
<td>Haritaki</td>
<td>Terminalia Chebula Retz.</td>
<td>Fruit</td>
<td>1 part</td>
</tr>
<tr>
<td>3.</td>
<td>Bibhitaka</td>
<td>Terminalia Bellerica Roxb.</td>
<td>Fruit</td>
<td>1 part</td>
</tr>
<tr>
<td>4.</td>
<td>Bhringaraja</td>
<td>Eclipta alba Hassk.</td>
<td>Panchanga</td>
<td>1 part</td>
</tr>
<tr>
<td>5.</td>
<td>Nila kamala</td>
<td>N. stellate wild</td>
<td>Pushpa</td>
<td>1 part</td>
</tr>
<tr>
<td>6.</td>
<td>Anantamula</td>
<td>Hemidesmus indicus R.Br.</td>
<td>Mula</td>
<td>1 part</td>
</tr>
<tr>
<td>7.</td>
<td>Loha Bhasma</td>
<td>Iron</td>
<td>1 part</td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>Saindhava Lavana</td>
<td>Rock salt</td>
<td>1 part</td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>TilaTaila</td>
<td>Sesamum indicum Linn.</td>
<td>4 parts</td>
<td></td>
</tr>
</tbody>
</table>

- **Dose** – 10-15 ml.
- **Duration** - One month daily.
- **Route of administration** - Local application on head (shiroabhyanga).

**RESULTS:**

Results of the treatment will be tabulated and analyzed statistically with relevant tests and level of significance was reported by using Graph Pad Instat (version 3.10, 32 bit for windows created July 10, 2009). Paired ‘t’ test was used for the parametric data and Wilcoxon matched pair rank test for non-parametric data in individual groups.

Table 2: Effect of *Triphaladi Taila* on Subjective parameters: (Wilcoxon matched paired single ranked test)

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>N</th>
<th>Mean</th>
<th>Diff.</th>
<th>% of Change</th>
<th>±SD</th>
<th>SE</th>
<th>T</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tvak sphutana</td>
<td>30</td>
<td>2.900</td>
<td>0.600</td>
<td>2.30</td>
<td>79.31</td>
<td>0.6513</td>
<td></td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Kandu</td>
<td>30</td>
<td>2.367</td>
<td>0.266</td>
<td>2.10</td>
<td>88.71</td>
<td>0.7589</td>
<td></td>
<td>15.16</td>
</tr>
<tr>
<td>Keshabhumi rukshata</td>
<td>30</td>
<td>2.10</td>
<td>0.33</td>
<td>1.76</td>
<td>83.80</td>
<td>0.7279</td>
<td></td>
<td>13.24</td>
</tr>
<tr>
<td>Keshachyuti</td>
<td>30</td>
<td>2.73</td>
<td>0.76</td>
<td>1.96</td>
<td>71.79</td>
<td>0.6687</td>
<td></td>
<td>16.05</td>
</tr>
<tr>
<td>Daruna</td>
<td>30</td>
<td>1.66</td>
<td>0.133</td>
<td>1.533</td>
<td>91.96</td>
<td>0.5074</td>
<td></td>
<td>16.66</td>
</tr>
<tr>
<td>Svapa</td>
<td>30</td>
<td>0.800</td>
<td>0.066</td>
<td>0.733</td>
<td>91.62</td>
<td>0.5833</td>
<td></td>
<td>6.88</td>
</tr>
</tbody>
</table>

Effect of *Triphaladi Taila* was found highly significant (p<0.0001) on Tvak sphutana, Kandu, Kesha bhumi rukshata, Keshachyuti, Daruna and Svapa.

Effect of therapy had reduced the Tvak sphutana by 79.31%, Kandu by 88.71%, Keshabhumi rukshata by 83.80%, Keshachyuti by 71.79 %, Daruna by 91.96 %, Svapa by 91.62% which was statistically highly significant (p<0.0001).

Table 3: Effect of *Triphaladi Taila* on objective parameters: (paired ‘t’ Test)

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean</th>
<th>Diff.</th>
<th>±SD</th>
<th>SE</th>
<th>T</th>
<th>P</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td>HB</td>
<td>30</td>
<td>13.75</td>
<td>13.75</td>
<td>0</td>
<td>0.4402</td>
<td>0.0803</td>
<td>0</td>
<td>0.9999</td>
</tr>
<tr>
<td>TLC</td>
<td>30</td>
<td>7366.7</td>
<td>7330.0</td>
<td>36.667</td>
<td>238.51</td>
<td>43.545</td>
<td>0.8420</td>
<td>0.4067</td>
</tr>
<tr>
<td>ESR</td>
<td>30</td>
<td>7.900</td>
<td>8.133</td>
<td>-0.233</td>
<td>1.331</td>
<td>0.2430</td>
<td>0.9603</td>
<td>0.3449</td>
</tr>
<tr>
<td>Neutro</td>
<td>30</td>
<td>56.133</td>
<td>55.900</td>
<td>0.2333</td>
<td>1.194</td>
<td>0.2181</td>
<td>1.070</td>
<td>0.2934</td>
</tr>
<tr>
<td>Lympho</td>
<td>30</td>
<td>34.833</td>
<td>34.167</td>
<td>0.6667</td>
<td>2.264</td>
<td>0.4134</td>
<td>1.613</td>
<td>0.1176</td>
</tr>
<tr>
<td>Eosino</td>
<td>30</td>
<td>3.700</td>
<td>3.267</td>
<td>0.433</td>
<td>1.478</td>
<td>0.2699</td>
<td>1.602</td>
<td>0.1192</td>
</tr>
</tbody>
</table>
In this study, it was observed that almost all the objective parameters showed statistically non significant results i.e. \((p \geq 0.05)\) except PCV which showed significant result.

Table 4: Showing the overall clinical improvement in all the symptoms in Triphaladi taila Group

<table>
<thead>
<tr>
<th>Sign and Symptoms</th>
<th>Triphaladi taila Group</th>
<th>%</th>
<th>P-value</th>
<th>Impression</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tvak Sphutana</td>
<td></td>
<td>79.31</td>
<td>&lt;0.0001</td>
<td>Marked Improved</td>
</tr>
<tr>
<td>Kandu</td>
<td></td>
<td>88.71</td>
<td>&lt;0.0001</td>
<td>Complete Remission</td>
</tr>
<tr>
<td>Rukshata</td>
<td></td>
<td>83.80</td>
<td>&lt;0.0001</td>
<td>Complete Remission</td>
</tr>
<tr>
<td>Keshachyuti</td>
<td></td>
<td>71.79</td>
<td>&lt;0.0001</td>
<td>Marked Improved</td>
</tr>
<tr>
<td>Daruna</td>
<td></td>
<td>91.96</td>
<td>&lt;0.0001</td>
<td>Complete Remission</td>
</tr>
<tr>
<td>Svapa</td>
<td></td>
<td>91.62</td>
<td>&lt;0.0001</td>
<td>Complete Remission</td>
</tr>
</tbody>
</table>

Complete Remission: 81-100% relief, Marked Improvement: 61-80% relief, Moderate Improvement: 41-60% relief, Mild Improvement: 21-40% relief, Unchanged: < 20%

**DISCUSSION**

**Triphaladi Taila:** The ingredients of this Taila are Amlaki, Bibhitaka, Haritaki, Bhringaraja, Sariva, Nilotpala, Saindhava lavana, Lauha bhasma and Tila taila. The properties of Amlaki are guru rasa, sheeta virya, madhura vipaka, tridoshashamaka. Bibhitaka having kashaya rasa, ushna virya, madhura vipaka, tridoshashamaka. The properties of Haritaki are laghu rasa, ushna virya, madhura vipaka, tridoshashamaka which are based on its kushtthagha property. The nilotpala is having kashaya, madhura, tikta rasa, laghu, snigdha, picchila guna, madhura vipaka and kapha pittashamaka.

The properties of Bhringaraja are katu tikta Rasa, ushna virya, raksha guna, katu vipaka dravya and kapha-vatashamaka. Sariva having tikta, madhura rasa, guru, snigdha guna and tridoshashamaka. The properties of saindhava lavana are madhura rasa, snigdha guna, madhura vipaka and tridoshghna. Lauha having tikta Rasa, ushna virya, snigdha guna and tridoshahara. Tila taila have madhura rasa, ushna virya, guru guna and madhura vipaka. The taila prepared had laghu and snigdha properties with madhura, kashaya, tikta and katu Rasa with madhura vipaka and ushna virya which was intended to have a tridoshashamaka effect. The laghu and snigdha properties would act on the vitiation of the kapha and vata dosha whereas sheeta virya would act on pitta dosha. Usnha virya and snigdha property would act on the vitiation of kapha and madhura vipaka would act on vata dosha. The ushna virya and snigdhatva would aid in liquefying the dried kapha in the pores of the scalp. Most of the contents of triphaladi taila are mentioned as kushtthagha, kandughna, krimighna, keshaya, tvachya by the
various Ayurvedic classics. Pharmacology of Ayurveda is based on the theory of rasa, guna, virya, vipaka and prabhava, which were the simplest parameters in those days to ascertain the action of the drug. samprapti vighatana is said to be the treatment, therefore the action of a drug means to dismantle the samprapti ghataka of the disease.

PROBABLE MODE OF ACTION OF DRUGS-

- The mode of action of taila as shiroabhyanga increases the blood circulation in the scalp and hence impure blood is exchanged by fresh blood and thus due to the different properties of taila like snigdha guna, katu, tikta rasa, ushna virya removes vitiated dosha from the srotas and helps in curing the disease.
- Darunaka occurs mainly due to vitiation of vata & kapha dosha. There may be assistance of vitiated rakta & pitta.
- Kandu is one of the symptoms in Darunaka. This is due to the factors like accumulation of mala on the scalp. This taila have katu, tikta rasa, katu vipaka & ushna virya. Tila Taila also has tikta rasa and ushna virya.
- Katu rasa which ultimately removes dosha, abhishyanda, sweda, kleda & vridhha mala from body. This removes swedovaha, rasavaha strotasavrodha. As ama dosa, kleda is removed Kanḍu & krimi disappears too. Hence due to kandughna, krimighna properties; it gives relief in Darunaka by relieving kandu & killing krimi. Overall katu rasa helps in relief, by pacification of vitiated kapha.
- Tikta Rasa acts in a similar way as it is a krimighna, vishapaha, pacifies vitiated kapha & laghu in property. Hence Katu, tikta rasa, ushna virya and kaphahara property of taila and Tikta Rasa, ushna virya of Tila Taila help in pacifying Kapha and reduces kandu symptom in Darunaka.
- Rukshata in Darunaka is due to abhyangadvesha and other Vata vitiating nidana which causes roughness of scalp. Rukshata is pacifying by Snigdha Guna of the oil.
- Tvak sphuṭana in Darunaka is the result of the vitiated vata dosha. Ushna virya of the drugs plays a role in pacifying vitiated vata doṣha. Tikta Rasa provides stability to tvak & tissues, which might help in reducing tvak sphuṭana occurring in Darunaka. As tikta is ruksha in property it dries pitta & pacifies it. Hence associated daha, raga settles down. Hence triphaladi taila reduce tvak sphuṭana by its snigdha guna, tikta rasa, ushna virya and vatahara property.
- Keshachyuti (Hair fall) is another symptom of Darunaka. The hair fall in Darunaka may be due to lack of snigdhata caused by vitiated vata. The hair becomes dull and rough; owing to their abnormal dryness they become short, thin and fall out easily. Triphaladi taila reduces hair fall by their snigdha guna, tikta rasa and vata kaphahara property. Tikta rasa dries vitiated pitta doṣa with ruksha property & pacifies pitta doṣha. Ushna virya of the drug is responsible for pacification of vitiated vata doṣha, which reduces hairfall.
- Daraṇa (difficulty in tolerance) is another symptom of Darunaka. This is due to lack of snigdhata caused by vitiated vata. Hence Katu rasa, snigdha guna, ushna virya of taila help in pacifying vata and kapha dosha.
- Svapa is also due to vitiated vata and kapha dosha. Triphaladi taila reduces svapa by their snigdha guna, tikta rasa and vata kaphahara property.

CONCLUSION

The study shows that Triphaladi taila is effective in the management of Darunaka. The trail drug i.e. Triphalādi taila showed statistically highly significant results in various sign and symptoms of dārūṇaka that include Tvak sphuṭana (Scaling or Flakes), Kanḍu (Itching), Kesha bhumi rukshata (Dryness of scalp), Keshachyuti (Hair fall), Daruna.
(difficulty in tolerance) and Svapa (loss of touch sensation). This improvement in symptoms is brought about by samprapti vighatana of the disease. Therapy was well tolerated by all the patients and no toxic or unwanted effects were noticed in any patients. It can be concluded that the medicine i.e Triphaladi taila in current study show improvement in symptoms of Darunaka.

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