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A Clinical Study to Evaluate the Efficacy of *Gunja Taila* in the Management of *Darunaka* w.s.r to Dandruff and Seborrheic Dermatitis

Chetan Singh^{1*}, SurendraKumar Sharma² and Sisirkumar Mandal³

¹⁻³P.G. Department of Roga Nidana Evam Vikriti Vigyana, NIA, Jaipur, Rajasthan, India

ABSTRACT

Ayurveda is the most ancient among the holistic health science of life, health and care donated to humanity by the perfect Indian heritage. Dandruff is an irritative skin disease that mainly affects the scalp, affecting almost half of the population at the pre-pubertal age and of any gender and ethnicity but is rare and mild in children. It occurs in both sexes and persons of all races and characterized by flakes, itching, dryness and hairfall. In *Ayurveda*, it comes under *kshudrarogas*-caused by vitiated *vata* and *kapha dosha*. Globally, it has a high prevalence rate and frequent relapses. In *Ayurveda*, *Darunaka* can be correlated with Dandruff and Seborrheic Dermatitis. It is a disease concerned to scalp and hair root causing hair loss. So, this clinical study is planned to evaluate the efficacy of classical *yoga* for the management of *Darunaka* which is- *Gunja taila*. **Material and Methods:** The study was prospective, open label and interventional and conducted in 30 clinically diagnosed patients with classical sign and symptoms of *Darunaka*. The study was conducted on 30 clinically diagnosed patients of *Darunaka* and given *Gunja taila* (ext. application as *shiroabhyanga*) 10-15 ml for 30 days. **Result:** The observations and results concluded that drug i.e *Gunja taila* showed effective and highly significant results in signs and symptoms of *Darunaka* i.e ($p < 0.0001$).

KEYWORDS

Darunaka, Dandruff, kshudrarogas, Seborrheic Dermatitis, Gunja taila



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INTRODUCTION

Ayurveda is the science of life. This holistic ancient science has two objects, viz. to maintain the health of healthy person, and to treat the sick person. There are 19 diseases described by *Vagbhata* in *shiroroga Pratishedha adhyaya*, they are 9 *kapalaRoga*¹ and 10 *shiroroga*². *Darunaka* is a *kapalagata roga* described by *Vagbhata*³ and *Sarangadhara*⁴ but *Sushruta*⁵ and other *Acharya* explained this disease under *kshudra roga*. *Vagbhata* has described *Darunaka* in the *shiroroga*, the 23rd chapter of *UttarTantra*⁶, *Acharya Sushruta* mentioned this disease in *Nidana Sthana* chapter 13, *kshudraroga*⁷. However, in the 26th chapter of *cikitsasthana of charaka samhita*, *Samprapti* of *Darunaka* is given in *sirah kapalagataroga*⁸ by *Acharya Charaka* without naming. *Madhava nidana*⁹ has mentioned this disease in chapter 55 of second part named *kshudraroga prakaran* and in *Sarangadhara Samhita*, the disease is mentioned in the 7th chapter of 1st Khanda. In *Bhavaprakasha*, *Darunaka* is described in *Kshudraroga adhikar*¹⁰.

Need of the Study:

Dandruff is a skin condition that mainly affects the scalp¹¹. Dandruff and Seborrheic Dermatitis are common disorders affecting the scalp that is often associated with

itching¹². Due to high prevalence rate and frequent relapses, Dandruff is found to affect half of total world population and cause social or self-esteem problems. In *Ayurveda*, *Darunaka* can be correlated with dandruff and Seborrheic dermatitis. *Darunaka* is classified as one among the *Kshudrarogas* and is the non-inflammatory and moderate type of Seborrheic dermatitis. The signs and symptoms of *Darunaka* are *Tvak Sphutana* (scaling of the scalp) *kandu* (itching), *Keshabhoomi Rukshata* (dryness of scalp), *keshachyuti* (hair falling), *daruna* (intolerance), *svapa* (loss of touch sensation). Vitiating *dosha* i.e. *vata* and *kapha* are responsible for the pathogenesis of *Darunaka*.

AIMS AND OBJECTIVES

To evaluate the efficacy and effectiveness of *Gunja taila* in the management of *Darunaka* as local application.

MATERIALS AND METHODS

Ethical Committee Approval
IEC/ACA/201/61 Dated 26/05/16

Selection of the patients: In this study, the patients of *Darunaka* has been selected from NIA *Arogyashala* and Satellite Hospital (OPD and IPD), Jaipur and others medical camps of NIA. The selection of *Darunaka* cases was based on clinical



features and laboratory findings. A written information and consent form were given to the patients and were explained about the purpose, procedures and possible side-effects of the trial. Total 30 patients were selected and registered for the study.

SELECTION CRITERIA:

(a) Inclusion criteria:

1. Patients of age 16 to 70 years of either sex.
2. No involvement of major systemic disease.
3. Patients suffering from signs and symptoms of *Darunaka*.
4. Patient's inclusion after their willing written and informed consent.

(b) Exclusion criteria:

1. Patients having other skin diseases like psoriasis,eczema, dermatitis, alopecia,etc.
2. Pregnant and lactating mothers.
3. Patients having immunodeficiency disease like AIDS, hypersensitivity and other malignant disorders.

Assessment criteria:

Subjective Parameters

The clinical assessment was based on following subjective parameters according to clinical proforma in the study.

1. *Tvak Sphutana* (Flakes on scalp)
2. *Kandu* (Itching)
3. *Keshabhumi Rukshata* (Dryness in scalp)

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):

- **Drug Dose** – 10-15 ml.
- **Duration**–30 Days (One month) daily.
- **Drug Administration**- External application on affected area of scalp (*shiroabhyanga*).
- **Time** - For 5 -10 min

Table 1 *Gunja Taila*¹³ (Bh. R .*Kshudra roga chikitsa 55/128*)

S. No	Name of the constituent drug	Botanical Name	Part used	Ratio
1.	<i>Gunja</i>	Abrus precatorius Linn.	Fruit	1 Part
2.	<i>TilaTaila</i>	Sesamum indicum Linn.	Seed	4 Part
3.	<i>Bhringaraja</i>	Eclipta alba Hassk.	<i>Panchanga</i>	16 part

RESULTS

In this study, results were reported by using relevant tests (Parametric and Non-parametric) which was tabulated and analysed statistically by using level of significance of Graph Pad Instat. Wilcoxon matched pair rank test and Paired 't' test were used for the non-parametric data (i.e subjective parameters) and parametric data (i.e objective parameters) in individual



group (Table 2). Effect of *Gunja Taila* was found highly significant ($p < 0.0001$) (Table 3) on *Tvak Sphutana*, *Kandu*, *Keshabhumi rukshata*, *Keshachyuti*, *Daruna* and *Svapa*. Effect of therapy had reduced the *Tvak*

Sphutana by 88.64%, *Kandu* by 90.11%, *Keshabhumi rukshata* by 88.60%, *Keshachyuti* by 82.56%, *Daruna* by 78.68%, *Svapa* by 79.94% which was statistically highly significant ($p < 0.0001$).

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

Symptoms	N	Mean		Diff.	% of Change	±SD	SE	T	P
		BT	AT						
<i>Tvak Sphutana</i>	30	2.96	0.33	2.633	88.64	0.4901	0.0894	29.45	<0.0001
<i>Kandu</i>	30	2.36	0.23	2.133	90.11	0.5713	0.1043	20.45	<0.0001
<i>Keshabhumi rukshata</i>	30	2.63	0.30	2.333	88.60	0.6065	0.1107	21.07	<0.0001
<i>Keshachyuti</i>	30	2.86	0.50	2.367	82.56	0.6687	0.1221	19.38	<0.0001
<i>Daruna</i>	30	1.56	0.33	1.233	78.68	0.8976	0.1639	7.52	<0.0001
<i>Svapa</i>	30	1.16	0.23	0.933	79.94	0.7397	0.1350	6.91	<0.0001

Table 3 Effect of *Gunja Taila* on objective parameters (paired 't' Test)

Variable	N	Mean		Diff.	±SD	SE	t	P	S
		BT	AT						
HB	30	14.633	14.443	0.1900	0.7237	0.1321	1.438	0.1611	NS
TLC	30	7100	7080	20.00	92.476	16.884	1.185	0.2458	NS
ESR	30	6.710	6.968	-0.258	0.9298	0.1670	1.545	0.1328	NS
Neutro	30	54.600	54.867	-0.266	1.574	0.2874	0.9278	0.3612	NS
Lympho	30	35.367	35.567	-0.200	1.400	0.2555	0.7827	0.4401	NS
Eosino	30	4.567	4.567	0	0.8710	0.1590	0	0.9999	NS
Mono	30	5.467	6.033	-0.566	2.459	0.4490	1.262	0.2169	NS
Baso	30	0	0	0	0	0	0	0	-
TRBC	30	4.891	4.819	0.0723	0.1982	0.0361	1.999	0.0550	NS
TPLC	30	2.377	2.386	-0.008	0.0380	0.0069	1.199	0.2402	NS
TEC	30	227.97	227.07	0.9000	18.683	3.411	0.2638	0.7938	NS
PCV	30	45.287	45.380	-0.093	0.4299	0.0784	1.189	0.2440	NS
MCV	30	90.920	91.260	-0.340	1.001	0.1828	1.860	0.0731	NS
MCH	30	90.920	90.943	-0.023	0.0897	0.0163	1.424	0.1652	NS
MCHC	30	32.463	32.097	0.3667	1.428	0.2607	1.407	0.1701	NS
RBS	30	92.533	94.033	-1.500	10.725	1.958	0.7661	0.4498	NS

In this study, it was observed that almost all the objective parameters showed statistically non-significant results i.e ($p \geq 0.05$).

Complete Remission: 81-100% relief,
 Marked Improvement: 61-80% relief,
 Moderate Improvement: 41-60% relief,
 Mild Improvement: 21-40% relief,
 Unchanged: < 20% (Table 4.)

DISCUSSION

Gunja Taila:

The composition of the *taila* are *Gunja*, *Bhringaraja* and *Tilataila*. These drugs are having *madhura*, *katu*, *tikta*, and *kashayarasa*. *Ushna virya*, *guru*, *laghu*, *snigdha*, *ruksha* and *tikshna guna*, where as *katu rasa* and *madhura vipaka* have *Vata-*



kaphashamaka property. The drugs also have other properties like *keshya*, *vishaghna*, *jantughna*, *daurgandhya-nashaka* and *kandughna*. The taila was prepared by the *tailapakavidhi*.

Table 4 The overall clinical improvement in all the symptoms in *Gunja taila* Group

Sign and Symptoms	Gunjataila Group		
	%	P-value	Impression
<i>Tvak</i>	88.64	<0.0001	Complete Remission
<i>Sphutana</i>			
<i>Kandu</i>	90.11	<0.0001	Complete Remission
<i>Rukshata</i>	88.60	<0.0001	Complete Remission
<i>Keshacyuti</i>	82.56	<0.0001	Complete Remission
<i>Daruna</i>	78.68	<0.0001	Marked Improved
<i>Svapa</i>	79.94	<0.0001	Marked Improved

The *taila* thus prepared had *snigdha* properties with *madhura* and *kashaya*, *tikta* and *katu rasa* with *madhura vipaka* and *ushna virya* which was intended to have a *Vata-kaphashamaka* effect. The *laghu*, *tikshna* and *snigdha* properties would act on the vitiation of the *kapha* and *vata dosha* whereas *madhura vipaka* would act on *Vata dosha*. *Ushna virya* and *snigdha* property would act on the vitiation of *kapha*. The *ushna virya* and *snigdha* would help in liquefying the *kapha dosha* and clearing up the obstruction in the pores of scalp which leads to the growth of new hairs.

The *taila* on application increases the local blood circulation in the scalp which leads to the absorption of the drug. *Keshya* and

rasayana action of drugs enhance the nutritive beneficial effect on the hair. *Vishaghna*, *kandughna* and *jantughna* property removes the local infection and helps in checking the hair fall and thus help in checking the further process of *Darunaka*. Most of the contents of *Gunja taila* is mentioned as *kushthaghna*, *kandughna*, *krimighna*, *keshaya*, *tvachya* by the various *Ayurvedic* classics. The drug action is to take away *samprapti ghataka* of disease and hence *Samprapti vighatana* is only the treatment of the disease.

PROBABLE MODE OF ACTION OF DRUGS-

- In *Ayurveda*, the action of drugs is determined on Pharmacodynamic factors as *Rasa, Guna, Virya* and *Vipaka* along with certain specific properties called *Prabhava*. The mode of action of *taila* as *shiroabhyanga* increases the blood circulation in the scalp and hence the 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 due to vitiated *vata & kapha dosha*¹⁴. There may be assistance of vitiated *rakta & pitta* according to *Acharya videha*.



- *Kandu* is one of the symptom 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*¹⁵ which have *vata-kaphashamaka* effect and reduces *Kandu*. *TilaTaila* also have *tikta rasa* and *ushna virya*¹⁶.

- *Katu*¹⁷ *rasa* which ultimately removes *dosha*, *abhishyanda*, *sweda*, *kleda* & *vridhhamala* from the body. This removes *swedovaha*, *rasavahastrotasavrodha*. As vitiated *dosha*, *kleda* is removed from the *srotas*, *Kandu* & *krimi* disappears too. Hence due to *kandughna*, *krimighna* properties of *taila*, it gives relief in *Darunaka* by relieving *kandu* & killing *krimi*. Overall *katu rasa* helps in relief, by pacification of vitiated *kapha*.

- *TiktaRasa*¹⁸ acts in similar way as it is a *krimighna*, *vishapaha*, pacifies vitiated *kapha* & *laghu* in property. Hence *Katu*, *tikta rasa*, *ushna virya* and *kaphahar* property of *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 pacified by *Snigdha Guna* of the oil.

- *Tvak Sphutana* in *Darunaka* is due to vitiated *vata dosha*. *Ushna virya* of the drugs plays a role in pacifying vitiated *vata dosha*. *Tikta rasa* provides stability to *tvak* & tissues, which might help in reducing *tvak sphutana* occurring in *Darunaka*. As *tikta* is *ruksha* in property it dries *pitta* & pacifies it. Hence *Gunja taila* reduces *tvak Sphutana* by its *snigdha guna*, *tiktarasa*, *ushna virya* and *vatahara* property.

- *Keshachyuti* (Hair fall) is another symptom of *Darunaka*. The hairfall in *Darunaka* may be due to lack of *snigdha* caused by vitiated *vata*. The hair becomes dull and rough; owing to their abnormal dryness they become short, thin and fall out easily. *Gunja taila* reduces hair fall by their *snigdha guna*, *tikta rasa* and *vatakaphahara* property. *Tikta rasa* dries vitiated *pitta dosha* with *ruksha* property & pacifies *pitta dosha*. *Ushna virya* of the drug is responsible for pacification of vitiated *vata dosha*, which reduces hairfall.

- *Daruna* (difficulty in tolerance) is another symptom of *Darunaka* due to vitiated *vata dosha*, which is caused by lack of *snigdha guna*. Hence *Katu rasa*, *snigdha guna*, *ushna virya* of *taila* helps in pacifying vitiated *dosha*.

- *Svapa* is also due to vitiated *vata* and *kapha* dosha. *Gunja taila* reduces *svapa*



by their *snigdha guna*, *tikta rasa* and *vatakaphahara* property.

CONCLUSION

The study shows that *Gunja taila* is very effective in *Darunaka*. The trail drug i.e. *Gunja taila* showed statistically highly significant results in various *lakshana* of *Darunaka* that include *Tvak Sphutana* (Scaling or Flakes), *Kandu* (Itching), *Keshabhumi rukshata* (Dryness of scalp), *Keshachyuti* (Hair fall), *Daruna* (difficulty in tolerance) and *Svapa* (loss of touch sensation). The improvement in symptoms was due to *samprapti vighatana* of the disease. No toxic or side effects were noticed in any patients. Hence, it is concluded that the medicine i.e *Gunja taila* in current study shows improvement in symptoms and is proved to be effective in preventing *Darunaka*.



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