A CLINICAL TRIAL TO COMPARE THE EFFICACY OF *BRINGARAJA TAILA NASYA* WITH *BRIHATYADI TAILA NASYA* IN *AKALA PALITYA*

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ABSTRACT

Face of an individual is a personal identity, in which hair plays a very important role. A natural aging process, the slow-but-steady greying of hair assumes a lot of aesthetic relevance in our society. Premature greying of hair is now a dreaded issue faced by present day youngster. It has effect on appearance, confidence, self-esteem and social acceptance of the affected individual. Among youngsters hair grooming has become so important that they spend a lot of money and time on hair styling and maintenance. Many go to salons where the dresser treats one's hair with chemicals and hot air. Hair dyes, gels and alike flood the cosmetic market which gives only a temporary relief. Shiras is considered the *Uttamanga* of the body because it is the seat of *Prana* and the *Indriyas*. Among *Brihat Trayees, Ashtanga Hridaya* gives a detailed description of diseases of nine *Kapalagata Rogas*. In *Ayurveda, Palitya* comes under *Kshudra Roga* or *Kapalagata Roga* which occurs due to the grief, anger and fatigue causing vitiation of *Deha Ushma* and *Ushna Guna* of *Pitta* circulates to *Romakupa* and causes *Paka* of hair. Treatment involves *Sodhana* and *Shamana* line of management ranging from *Shiroabhyanga, Nasya, Shirolepa.* So, *Nasya Karma* was opted as a line of management in this study. For this clinical trial, *Bringaraja Taila Nasya* and *Brihatyadi Taila Nasya* is used which has *Vatapitta* properties.

➤ 30 Patients diagnosed with *Akala Palitya* and those who fulfill the inclusion and diagnostic criteria irrespective of gender, religion, occupation, marital status, socio economic status, educational status were selected for the study.

➤ Group A and Group B with 15 patients in each Group A was administered with *Bringaraja Taila Nasya* and Group B with *Brihatyadi Taila Nasya,* six *Bindu* in each nostril for 14 days in one sitting. Diagnosis was made on the basis of signs and symptoms mentioned in Ayurvedic literature and modern reference sources- *Akala kesha vaivarnyata* (Premature change in color of hair), *Rooksha sphutitha*(dry splitted hair), *Snigdha sthoola*(oilyness), *Daha* (burning sensation of scalp).

➤ Data was tabulated and analyzed using Mann Whitney Rank Sum Test for subjective parameters and unpaired 't' test for objective parameters, which showed no improvement in *Akala Kesha Vaivarnya* and random hair count. But showed marked improvement in *Snigdha Sthoola* and *Rooksha Sputitha Kesha.*

KEYWORDS: *Akala Palitya,* Canites, *Bringaraja Taila Nasya, Brihatyadi Taila Nasya.*

INTRODUCTION

Akala Palitya is one among them which occurs due to the grief, anger and fatigue causing vitiation of *Deha Ushma* and *Ushna Guna* of *Pitta* circulates to *Romakupa* and causes *Paka* of hair.[1]

Important *Lakshanas* includes *Akala Kesha Vaivarnya, Rooksha Sphutitha, Snigdha Sthoola* and *Daha.*[2]

Features of *Akala Palitya* is similar to that of Premature greying of hair.

Premature greying of hair/ Canities is defined as greying of hair before the age of 20 years in Caucasians and before 30 years in African American population.[3] Cause of greying is incompletely understood and is a complex multifactorial process mainly considered to be an interplay of nutritional, genetic and environmental factors Nutritional deficiencies - Vitamin B12 deficiency, severe iron deficiency, chronic protein loss is often associated with premature greying of hair. Psychological stress and smoking have a significant effect as an etiological agent in premature greying of hair.

According to WHO, incidence of premature greying of hair is common in age group of 20-30 years. Prevalence of premature greying of hair in India is 27.3%.[4]

Treatment options include Vitamin B12, para-aminobenzoic acid in high doses, calcium pantothenate 200 mg/day with or without hair avulsion, latanoprost, hair colorants and plastoquinone derivatives.

"Nasa hi shirasodwaram", As Nasa is considered as the gateway to Shiras[5], Nasya is considered as the best mode of drug administration in *Akalapalitya*.

So, in this study *Bringaraja Taila Nasya*[6] and *Brihatyadi Taila Nasya*[7] was taken as the treatment modality.

AIM OF STUDY
To find an effective solution for *Akala Palitya* (premature greying of hair)

OBJECTIVES OF STUDY
1. To evaluate the efficacy of *Bringaraja Taila Nasya* in the management of *Akala Palitya.*
2. To evaluate the efficacy of *Brihatyadi Taila Nasya* in the management of *Akala Palitya*.
3. To compare the efficacy of *Bringaraja Taila Nasya* with *Brihatyadi Taila Nasya* in the management of *Akala Palitya*.

MATERIALS AND METHODS
Patients attending the OPD and IPD of Department of *Shalakya tantra*, Alvas Ayurveda Medical College and Hospital, Moodbidire with signs and symptoms of *Akala Palitya* were registered irrespective of gender, religion, occupation, education, etc; were taken for the study. A total of 30 patients were divided into 2 groups i.e; Group A and Group B with 15 members in each group.

Sampling Technique
Study design
SIMPLE RANDOM SAMPLING METHOD
GROUP A: The patients of this group were administered with *Bringaraja Taila Nasya* 6 drops in each nostril for 14 days.
GROUP B: The patients of this group were administered with *Brihatryadi Taila Nasya* 6 drops in each nostril for 14 days.

Data was tabulated and analyzed using Mann Whitney Rank Sum Test for subjective parameters and unpaired 't' test for objective parameters.

Diagnostic Criteria[8]
Diagnosis is made on the basis of signs and symptoms mentioned in Ayurvedic literature and modern reference sources.

Akala kesha vaivarnyata (Premature change in color of hair) along with any one of the symptoms mentioned below.
1. *Rooksha sphutitha* (dry splitted hair)
2. *Snigdha sthoola* (oilyness)
3. *Daha* (burning sensation of scalp)

INCLUSION CRITERIA[8]
• Patients presenting with *Akala Kesha Vaivarnyata* (premature change in color of hair) along with any one of the symptoms
• *Rooksha Sphutitha* (dry splitted hair)
• *Snigdha Sthoola* (oilyness)
• *Daha* (burning sensation of scalp)
• Patients within age group of 20-30 years irrespective of sex and occupation, with premature greying of hairs.
• Patient indicated for *Nasya Karma*

EXCLUSION CRITERIA[9]
• Hereditary diseases like albinism, vitiligo.
• Subjects with hormonal diseases like thyroid disorders.
• Nutritional Deficiencies, Pernicious Anemia, Copper and Iron deficiency, Severe Protein Loss, Vitamin D3 Deficiency
• Metabolic Syndromes such as Phenylketonuria, Histidinemia, Oasthouse Disease, and Homocystinuria
1. Canities Subita
2. Patients contraindicated for *Nasyakarma* (alcohol consumption, who have had bloodletting therapy, those suffering from Rhinitis, women in Puerperium, menstruating women Dyspnoea and Cough).

OBSERVATION PERIOD
Symptoms before, during and after the treatment will be observed and the same will be recorded in the Proforma of the case sheet.
☐ Group A-Data will be collected from the patient on 1st day before treatment and on 15th day after treatment.
☐ Group B-Data will be collected from the patient on the 1st day before treatment and on 15th day after treatment.
FOLLOW UP: 30th, 60th, 90th day.
TOTAL DURATION OF STUDY: 90 Days.

ASSESSMENT CRITERIA
Assessment will be done based on subjective and objective parameters.

Subjective parameters[10]
• *Akala kesha vaivarnyata* (premature change in colour of hair) with any one of the below symptoms
• *Rooksha sphutitha*(dry split hair)
• *Snigdha sthoola*(oiliness)
• *Daha* (burning sensation of scalp)

Objective Criteria[11]

Random hair count- A site is chosen where more grey hairs are present and One square centimetre is taken into account and number of grey hairs are counted.

GRADATION INDEX: *AKALA KESHA VAIVARNYA* (COLOR OF HAIR)	GRADE
KRISHNA VARNA	0
ASH COLOURED HAIR (*SHYAVAVARNA)*	1
YELLOWISH/ COPPERY RED (*PEETHABA*)	2
WHITE HAIR (*SWETA*)	3

ROOKSHA SPUTITHA (DRY SPLIT HAIR)	GRADE
ABSENT	0
PRESENT	1

SNIGDHA STHOOLA (OILINESS OF HAIR)	GRADE
ABSENT	0
PRESENT	1

DAHA(BURNING SENSATION OF SCALP)	GRADE
ABSENT	0
PRESENT	1

RANDOM HAIR COUNT	GRADE
NO GREY HAIRS	0
1-10 GREY HAIRS IN 1 SQCM	1
>10 AND <25 GREY HAIRS IN 1 SQCM	2
>25 GREY HAIRS IN 1 SQCM	3

RESULTS
Data was tabulated and analyzed using Mann Whitney Rank Sum Test for subjective parameters and unpaired 't' test for objective parameters, which showed no improvement in *Akala Kesha Vaivarnya* and random hair count. But showed marked improvement in *Snigdha Sthoola* and *Rooksha Sputitha Kesha.*

DISCUSSION
- Age- *Akala Palitya* was more prevalent in the age group 20-25years with a predominance of 83%, may be due to the predominant *Pitta Dosha* in *Madhyavaya*(younger population)
- Gender- Almost equal in both genders which shows premature greying of hair affects both genders equally. Females with 57% predominance compared to males with 43%.
- Religion- Majority of the subjects where Hindus (93% predominance) because of the Hindu predominance in the locality.
- Marital status- All the subjects who participated in the clinical trial was unmarried. No direct relation of disease with *Akala Palitya* could be established.
- Occupation- 93% predominance was seen among students which indicates that stress adversely affects their mental status which vitiates *Pitta dosha* causing *Akala Palitya*
- Socioeconomic status- 50% predominance seen in upper class category. This may be due to usage of hairstyling equipment's, hair dryers, gels and other hair products by the upper class.
- Diet- 60% of the subjects were non vegetarians. *Mamsa Sevana* leads to vitiation of *Pitta* in turn leading to *Akala Palitya.*
- Nature of diet- The observation of the samples showed maximum of 43% subjects had spicy and salty diet. In *Ayurveda, Katu Lavana Ahara* is the *Nidhana* of *Akala Palitya.* Excessive daily consumption of *Lavana Rasa* is *Nidhana* for *Akala Palitya.* Excessive intake of *Katu Rasa* results in *Pitta dosha* vitiation which inturn had an important role in manifesting the disease.
- *Prakruti- Prakruti* wise distribution of *Akala Palitya* subjects showed 20% predominance in *Pitta Kapha Prakruti* followed by *Pitta Vata* 17%, *Kapha Pitta* 16% *Vata Pitta* 10%. *Akala Palitya* is a characteristic feature in *Pitta Prakruti* persons. So, in *Pitta* associated *Prakruti* had more chance of *Akalapalitya.*
- Emotional status- The observation of the samples showed maximum of 72% with *Srama. Manasika Nidhanas* cause *Pitta Prakopa* which inturn causes *Akala palitya.* Also, emotional stress produces oxidative stress which leads to premature graying of hair by destructing the melanocytes.
- Sleep- In this series maximum of 50 % subjects had 6-7 hrs of sleep. This study couldn't show any direct relationship of disease with sleep.

- Bowel- All the subjects in this study had a regular bowel habit mostly because of the habituated daily routine.
- Type of water used for hair wash- All the subjects in this study used chlorinated water for hair wash. Chlorinated water leads to dry hair and damage hair texture and color, resulting in premature graying.
- Material used for hair wash- Shampoo's contain chemicals like hydrogen peroxide which causes oxidative stress leading to premature graying of hair.
- Frequency of hair wash- The observation of the samples showed maximum of 60% took head bath on alternative days of the week. Frequent exposure to chlorinated water leads to *Akalapalitya.*
- Frequency of shampoo wash- The observation of the samples showed maximum of 47% took shampoo wash on alternative days of the week. Frequent exposure to shampoo containing chemicals leads to *Akalapalitya.*

Discussion on Symptoms

- *Akala Kesha Vaivarnya:* All the subjects who participated in the clinical trial had *Akala Kesha Vaivarnya.* It is because *Akala Kesha Vaivarnya* was taken as a must to have symptom for this clinical study.
- *Snigdha Sthoola:* None of the patients had *Snigdha Sthoola Kesha* but by the end of treatment all had *Snigdha Sthoola Kesha* which was seen throughout the followup period.
- *Rooksha Sputitha:* 63.3% of patients were suffering from *Rooksha Sputitha Kesha.* This shows the quality of hair.
- *Daha:* None of the patients screened for this study presented with *Daha* as a symptom.
- **Dandruff:** 43% of patients presented with dandruff on their scalp and got relieved of the symptom during this clinical trial.
- **Hair fall:** 56.7% of patients presented with hair fall and got relieved of the symptom during this clinical trial.

DISCUSSION ON RESULTS
Effect of treatment on *Akala Kesha Vaivarnya*
Considering post treatment of 3o patients (group A and group B) there was no change in *Akala Kesha Vaivarnyata* during the course of treatment. The number of grey hairs taken into account in 1 sqcm area remained same throughout the treatment course. So, there is not a statistically significant difference (P = 1.000).

Effect of treatment on *Rooksha Sphutitha*
There was **significant effect** before treatment and at follow up in both groups. Sneha Dravya in both the formulations reduces the vata prakopa leading to dryness. *Bringaraja Taila* nourishes the *Kesha* by its *Keshya* and *Rasayana* properties. *Brihatyadi Taila* has *Vatapitta Shamaka* property and has antioxidants in it which improves the quality of hair.

Effect of treatment on *Snigdha Sthoola*
Significant results noted during before treatment and after treatment, before treatment and followup period.

Effect of treatment on Random Hair count-
Considering post treatment of 30 patients (group A and group B) there was no change in grey hair count during the course of treatment. The number of grey hairs taken into account in one sqcm area remained same throughout the treatment course.

CONCLUSION
In this study, Within the group showed significant results in both the group. On comparative analysis between the groups showed no statistically significant difference. So, both Group A (*Bringaraja Taila Nasya*) and Group B (*Brihatyadi Taila Nasya*) are moderately effective formulations in the management of *Akala Palitya.* By considering the results, Null hypothesis H0 is accepted and alternate hypothesis H_{01} and H_1 is rejected.

H_0- There is no statistically significant difference between *Bringaraja Taila Nasya* and *Brihatyadi Taila Nasya* in the management of *Akala Palitya.*

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