

ISSN 2456-3110 Vol 6 · Issue 2 Mar-Apr 2021

Journal of Ayurveda and Integrated Medical Sciences

www.jaims.in

An International Journal for Researches in Ayurveda and Allied Sciences







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A single case study on the efficacy of Anu Taila Nasya followed by Narasimha Rasayana in Khalithya vis-à-vis Androgenic Alopecia

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ABSTRACT

Ayurveda, the indigenous system of medicine offers a number of non-invasive regimens for various disorders affecting a human body. One such common disease is Khalithya. For most people it can just be a common hair fall, though in some cases it can be extreme. It affects approximately 1.7% of world population. It can be correlated to Alopecia in contemporary science, which presents with loss of hair due to a disturbance of hair follicles which had, previously, developed and functioned normally. It is classified into two types as 'Alopecia areata', which is patchy hair loss and 'Diffuse alopecia', generalized hair loss. Alopecia is diffuse if it affects the scalp in a general distribution. Diffuse alopecia is common, affecting up-to 50% of men and women. While it can affect both the sexes at any age, women present more frequently than men. The classical description about Khalithya reveals the involvement of Tridosha i.e., Pitta, Vata, Kapha along with Rakta as the chief pathological causes. Although the disease does not produce serious side effects except cosmetic problem, it interferes with the self-confidence and social acceptance of the individual. A case of 16years old female patient, who came with the complaint of severe generalized hairfall over the scalp was taken up for the research work. As Nasya is a prime therapy in all Jatrurdhva diseases, Anutaila-Marsha-Nasya, indicated in Khalithya had been done followed by Narasimha Rasayana internally. Significant improvement was seen in both subjective and objective parameters at the end of follow-up period.

Key words: Alopecia, Androgens, Hair, Khalithya, Tridosha, Nasya, Case Study.

INTRODUCTION

Hair is a protein filament that grows from follicles found in the dermis. Hair is one of the defining characteristics of mammals. Most common interest in hair is focused on hair growth, hair types and hair

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Submission Date: 23/02/2021 Accepted Date: 27/03/2021

Access this article online		
Quick Response Code	Website: www.jaims.in	
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care. However, hair is also an important biomaterial primarily composed of protein, notably alphakeratin.^[1]

The American Hair Loss Association estimates that approximately 25 percent of men who are affected by the condition begin to see the first symptom of hair loss before age 21. Approximately 40 percent of females are suffering from hair loss. By the time they reach age of 50, roughly half of all women will be dealing with some degree of pattern hair loss. Approximately 3 percent of all pediatric doctor visits made each year are associated with issues related to hair loss, including thinning and bald spots.^[2] According to a survey, upto 40% of men & 25% of women in India are victims of hair fall.^[3] It is a universal and very common problem, having affected both sexes of all races. On a daily basis, the hair falls

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out of the head, specifically throughout washing and brushing 70-100 hairs loss a day is a very common phenomenon.^[4]

Androgenic alopecia is the most prevalent form of alopecia in adulthood, but little is known about its prevalence, characteristics and natural history in pediatric population. In children and adolescents with genetic predisposition, the first signs of androgenic alopecia may arise with increased levels of androgens at puberty, but the presence of androgenic alopecia in children with pre-pubertal testosterone levels and women with normal hormonal profiles, suggests that in some cases, the 'female pattern hair loss' may not be androgen dependent or that adrenal androgens may have direct action.^[5]

Female pattern hair loss (FPHL) has emerged as the preferred term for androgenic alopecia in females owing to the uncertain relationship between androgens and this entity. It is characterized by a reduction in hair density over crown and frontal scalp with retention of the frontal hairline. Hair loss in women is associated with significant psychological morbidity. Societal norms dictate that hair is an essential part of a women's sexuality and gender identity, and any hair loss generates feelings of low esteem and anxiety from a perception of diminished attractiveness. Current management options are limited, and even in positive responders, there is a significant time delay before improvement becomes apparent.^[6]

Kesha has been mentioned as the mala of Asthi dhatu.^[7] Hair fall has been described in almost all the Ayurvedic literatures as *Khalitya*. It has been included in *Shirorga* by *Acharya Charaka* and under *Shiro-Kapalagata Roga* by *Vagbhata*. This inclusion has been done on the basis of *Shtana* (location) and similarity of etio-pathogenesis of diseases. *Sushruta Samhita, Yoga Ratnakara* and *Madhavnidana* have included *Khalithya* disease under *Kshudra Roga*.^[8] Classical books define *Khalithya* as generalized gradual loss of hair from the scalp.^[9] It is stated that the *Pitta* present in *Romakupa* (hair follicle) vitiates along with *Vata* resulting into the fall of hair. Later on Kapha and Rakta together blocks the Romakupas, preventing the growth of new hair.^[10] The persons having Khavaigunya (genetic predisposition) are at a higher risk of developing Khalithya Roga. Acharya Charaka quotes excessive intake of Kshara, Lavana and Viruddha Ahara leads to Khalithya.^[11] Hair fall can also be caused by decrease or vitiation of Asthi Dhatu.^[12]

Considering the limited therapeutic approach in the contemporary medicine, Ayurveda, which is a time tested and best-known rejuvenating science, may be a best main line treatment option for Alopecia. *Nasya Karma* can be considered as an interventional treatment in *Khalitya*,^[13] as it has a prime role in maintaining hair growth and thus prevention of *Khalithya*. *Anu Taila*,^[14] which has direct indication in the treatment of *Khalithya* has been selected here for *Nasya Karma* along with *Narasimha Rasayana*,^[15] as *Rasayana* therapy does *Dhatu-Poshana* and plays an important role in prevention of hair fall.

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Centre of the study

OPD of Department of Shalakya Tantra (ENT), Sri Jayachamarajendra Institute of Medical Sciences, Bangalore, Karnataka, India.

Case report

A patient named Gayathri, aged 16 years with OPD number 6127 and daily number 75, attending ENT OPD of Shri Jayachamarajendra Institute of Medical Sciences, Bangalore on 24/5/2015 presented with following symptoms since 8 months:

- 1. Khalitya (Severe Hair Fall)
- 2. Kesha Tanutva (Thinness of Hair)
- 3. Kesha Rukshata (Dryness of Hair)

History of Present illness

Patient was apparently normal 8 months back. Gradually hair started thinning and approximately 80 to 100 hairs used to fall while combing and during head bath, many times a day. Hair also became dry even after proper application of hair oil. Worry made

them to shave the scalp completely in February 2015 at Tirupati so that new hair may grow healthily. Then in few days only scanty hair growth was seen at the terminal ends of the scalp. Merely 2 to 3 cm hair growth was seen, making a horse shoe shaped pattern of the present hair. Later the growth also stopped. Already grown hair also used to fall. Consulted Patanjali Ayurvedic Clinic in Malleshwaram, Bangalore and took medications for a month but found no relief.

History of Past illness

The patient underwent hernia operation 4 years back. No history of tumors, surgeries, drug intake or long term illnesses.

Family history

Mother has history of severe hair fall post parturition and now after menopause. No other members of the family presented with similar complaint.

Menstrual history

Regular since 2 years, no abnormality.

Table 1: Personal history

Diet	Mixed (spicy & junk food after school hours)	
Micturition	4-5 times a day	
Appetite	Reduced	
Sleep	Good	
Bowel	Regular	
Habits	Nothing specific	

Table 2: Astha-Vidha Pariksha

Nadi	71/min (<i>Pitta-vataja</i>)
Mala	Regular (Nirama)
Mutra	Normal (<i>Nirama</i>)
Jihva	Coated (whitish)
Shabdha	Clear (Spashta)
Sparsha	Normal (Anushnasheeta)

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Drik	Normal
Akruthi	Madhyama

Table 3: Examination of Hair

Nature	Thin, straight
Distribution	Diffuse reduction of thickness and density at the frontal scalp area and vertex (Figure 1 & 2)
Colour	Black, no white hairs
Texture	Very smooth (fine) and dry
Scalp skin	No erosions, no dandruff, no discoloration & dry in nature
Pull test	Negative

Fig. 1 & 2: Diffuse reduction of thickness and density at the frontal scalp area and vertex



Table 4: Blood investigations

Hemoglobin%	12.8gms
Complete blood count	WNL
Serum testosterone levels	58ng/dl
T3 levels	1.21ng/dl
T4 levels	7.27ng/dl
TSH levels	1.24mIU/L
Total Calcium	8.6mg%

Treatment given

The line of treatment for *Khalithya* as per classical books is *Nidana Paivarjana*, *Shaman*, *Shodhana* and *Rasayana*. Hence, prior to the treatment proper, body purification was done in the form of *Virechana*. Patient was given *Deepana*, *Pachana* for first 3 days using *Agnitundivati* (one tablet thrice daily before intake of food).

Then *Snehapana* was done with *Indukanta Ghrita* for 5 days in *Arohana Krama* of *Sneha* starting with 30ml on first day followed by 60ml, 100ml, 140ml and 180ml on consecutive days up to 5th day. For next 3 days *Sarvanga Abhyanga* with *Dhanvantaram Thaila* followed by *Nadi-Swedana* was done. Then *Virechana* was given on 9th day using *Trivrit Lehya* (40gms). The patient had 13 *Virechana Vegas* overall. Later the patient was advised to follow *Samsarjana Karma* strictly for 5 days.

After a gap of 7 days, *Anu Taila*^[16] *Marsha Nasya* (8 drops in each nostril) *Madhyama* Matra^[17] was administered for 7 days. *Anutaila*, as a *Shamana Nasya* is directly indicated in *Khalithya* by Ashtanga Sangrahakara.^[18]

Procedure

The patient after voiding all the urges was made to lie comfortably in supine position with extended head. *Abhyanga* over the face as well as neck was done using warm *Ksheerabala Taila* as per classical method. *Mridubashpa Swedana* for head was done for 5-10 minutes. Then 8 *Bindu* of lukewarm *Anutaila* was taken in *Nasya-Pranadi* (dropper) and instilled in pause. *Bashpa Sweda* was given over the head for 2-5 minutes. Patient was advised to spit out oil mixed with phlegm into the kidney tray placed on right and left sides of the patient. *Dhumapana* using *Guggulu* was followed till the patient felt free from heaviness of head. Later *Ushnajala Kavalagraha* was given.

Narasimha Rasayana - Oral administration of 1tsp twice a day along with water as *Anupana* was given up to one month, after food.

Anutaila 10ml (Nagarjuna Pharmacy) market sample was procured for the treatment. After Nasya Karma, Narasimha Rasayana was given internally in 1tsp BD dosage for 1 month. Total duration of the treatment was one month and 28 days.

Follow up: 1 month

Total Duration: 3 months

Gradation

Subjective Parameters

Table 5: The gradation of Hair fall

Khalithya (Hair fall)	Scores
No hair fall	0
Mild hair fall (by washing)	1
Moderate hair fall (by combing)	2
Severe hair fall (by just stretching)	3

Table 6: The gradation of dryness of hair

Kesha-rukshata (dryness of hair)	Scores
No dryness of hair	0
Mild dryness of hair (dryness can be seen on hair but on touch it feels smooth and to become smooth it required approx. 15-20 ml oil)	1
Moderate dryness of hair (dryness can be seen on hair as well as on touch also it feels dry and to become smooth it required approx. 20-25ml oil)	2

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Severe dryness of hair (hair lost its luster as well 3 as on touch it feels so dry and it doesn't become smooth with 25-30 ml oil)

Table 7: The gradation for Thinness of hair

<i>Kesha-Tanutva</i> (thinness of hair)	Scores
No thinness of hair (general growth is not decreased)	0
Mild thinness of hair (general growth is found around 1.5cm)	1
Moderate thinness of hair (general growth is found around 1cm)	2
Severe thinness of hair (hair growth is found around 0.5cm)	3

Objective Parameters

Hair Pull test - The hair pull test involves grasping 40-60 closely grouped hairs and applying gentle traction. If more than 10% of hairs are easily pulled out, the test is positive. The hair pull test is positive in telogen effluvium, anagen effluvium, and diffuse alopecia areata. The hair pull test is negative (away from areas of hair loss) in male and female pattern hair loss.¹⁹ The test was negative in the patient (only 2 hairs were obtained on gentle traction).

Table 8: Overall Assessment

No relief	0
Falling of unwanted hair stopped (mild relief)	1
Falling of unwanted hair stopped and appearance of new hair (moderate relief)	
Falling of unwanted hair stopped and considerable growth of new hair (good relief)	

OBSERVATIONS

The results in the patient were accessed based on the subjective parameters, as the simple pull test was negative.

Table 9: Results (Follow up during and after thetreatment)

SN	Signs and Symptoms	1 st day (BT)	AT		
			30 th day	60 th day	90 th day
1.	<i>Khalithya</i> (Hair fall)	3	3	2	1
2.	<i>Kesha-Rukshata</i> (Dryness)	3	1	1	0
3.	<i>Kesha-Tanutva</i> (Thinness)	3	2	1	1

DISCUSSION

Hair is one of the valuable entity of human body. Loss of hair can be traumatic to person not only physically, but also cosmetically, socially, psychologically and even economically. Hair loss is usually something only adults need to worry about. But sometimes teens lose their hair.

Hair fall may begin at any age after the onset of adrenarche and may precede pubarche and menarche. The essential feature of Female Pattern Hair Loss is the pattern of the hair loss. Women develop diffuse thinning over the mid-frontal scalp with relative sparing of the anterior hair line.^[20]

Testosterone is a powerful hormone in both men and women. In women, normal testosterone levels range from 8 to 60 Nano grams per deciliter (ng/dL) of blood. Testosterone levels higher than 70ng/dL may lead to loss of scalp hair, acne, irregular/absent menstrual periods, growth of facial hair and infertility.^[21] But in this case study, patient's blood investigation reports revealed normal levels of testosterone i.e., 58ng/dL. Androgenic alopecia may or may not be associated with increased biochemical levels of androgens in blood according to various research studies. But in this particular patient, the presence of family history, abrupt thinning of the hair along with severe hair loss and particular pattern of the baldness leads us towards the diagnosis of Female pattern hair loss.

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Androgenic alopecia, can be compared with the disease *Khalithya* mentioned in our classical books. *Khalitya* is the outcome of vitiated *Tridoshas* along with *Rakta*, and *Pitta* as predominant *Doshas*. This affects the *Keshabhoomi* (root of the hair), by obstructing the root of hair follicle leading to hair loss.^[22]

Nose is the gateway for entire Shiras. Any medication which is administered through nose (Nasya Chikitsa) has a direct and evident action in the diseases of sense organs as well as on the diseases of scalp. In the disease Khalithya, Marsha Nasyachikitsa clears the obstruction to the hair roots bv its Sookshmasrotogami property leading the to Romakoopa Vishodhana. Then the nourishing, Brimhana and Vata-Pittaharahara property of Anutaila helps in Samprapti Vighatana of Khalithya and hence new hair growth. Acharya Charaka has mentioned that everybody should take nasal drop of "Anutaila" every year during the rainy, autumn and spring season when the sky is free from cloud. Along with many other benefits, it prevents hair fall and also accelerates the growth of hair.[23]

Rasayana is best for reversing aging process i.e., it acts as an anti-ageing therapy and as antioxidant because premature hair fall is a sign of early aging process. According to modern science, alopecia is an autoimmune disease and Rasayana therapy acts as immune-modulator in Khalithya. Narasimha Rasayana is a special type of Rasayana Yoga explained in Astanga Hridaya. Its main indication is premature greying of hair and hair loss and has Vata-Pittahara property. The other benefits of this formulation are to improve immunity, physical strength, complexion and libido that speak about its rejuvenation action. It is also indicated in gynecological disorders and promotes fertility. Bhringaraja (Eclipta alba), which is a known Keshavardhaka, is present in both Anutaila as well as Narasimha Rasayana used here for the treatment.

CONCLUSION

Khalithya is a common but very unpredictable progressive disorder seen in people living in sedentary

lifestyle. The stress induced hectic schedules along with indiscriminate dietary habits, resulting in disturbance and deficiencies in the body, along with genetic vulnerability can be a cause for loss of hair. Androgenic alopecia may begin in adolescence, and its presentation is varied. In females, it is often manifested by a progressive hair weakening that may or may not be associated with hyper-androgenism. Alopecia may not have direct physical consequences for health but, certainly, it has an important psychological impact, especially in adolescence and in females. Shodhana and Rasayana are specialized therapies of Ayurveda. Shodhana is a procedure which takes out the Doshas from the nearest route of its vitiation. Nasya, is an important therapy in Shirorogas as Nose has been explained as the entrance for Shiras. Rasayana therapy has immune-modulating, antioxidant and rejuvenating action which is very beneficial for the hair fall caused by any chronic illness, pre mature aging or nutrition deficiency. Anu-Taila-Marsha-Nasya and Narasimha Rasayana internally, in combination were found safe and effective in controlling hair fall and improving the overall condition of hair in the patient who was diagnosed as having Androgenic alopecia. This case study shows the satisfactory management of a case of Khalithya through classical Nasya Karma and Rasayana. The patient showed grade 2 overall improvement at the end of follow-up period. The Ayurvedic management of *Khalithya* has a strong possibility to breakdown the pathogenesis of this disease. The recovery in the present case was promising and worth documenting.

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How to cite this article: Dr. Jyothi S, Dr. Ashwini MJ. A single case study on the efficacy of Anu Taila Nasya followed by Narasimha Rasayana in Khalithya vis-à-vis androgenicalopecia. J Ayurveda Integr Med Sci 2021;2:232-238.

Source of Support: Nil, Conflict of Interest: None declared.

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