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A CLINICAL STUDY ON EFFICACY OF RAKTAMOKSHAN BY JALAUKAVACHARANA IN KHALITYA W.S.R ANDROGENIC ALOPECIA: A CASE STUDY

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ABSTRACT

Background: Androgenic alopecia is a common hair loss problem in both males and females now a days. In the male, this condition is known as male pattern baldness, hair is lost in a well-defined pattern, often progressing to partial and complete, and in female pattern baldness, hair becomes thinner all over the head. The condition is characterized by the progressive loss of terminal hairs on the scalp in a characteristic distribution. Trichoscopy represents the dermoscopy imaging of the scalp and hair. Structures may be visualized in by trichoscopy including hair shaft, hair follicle opening, hair diameter, and hair thickness In *Ayurvedic texts* hair loss is termed as *Khalitya(Androgenic Alopecia)*, and the disease is mentioned under *Shiroroga(disease of scalp)* and *Kshudraroga*. *Khalitya* is most common in men than women. **Objectives**: In modern science, the management of androgenic alopecia is through a hair transplant. According to Ayurvedic science, *Raktamokshan (blood- letting)* is mentioned for the management of *khalitya*. So, to provide a cost-effective and promising result *Jalaukavacharana* was done in the form of *Raktamokshan*. **Methods**: 30 patients with Androgenic Alopecia were enrolled in this study. Data on age, gender, personal ad family history, clinical type, and duration of disease were collected and analysed. In this study,

patients, who were diagnosed with a case of *Khalitya* (Androgenic alopecia) were treated with *Jalaukavacharana* (leech therapy) in the Shalya Tantra OPD of Shri Krishana Govt. Ayurvedic Hospital, Kurukshetra. Periodic follow-up of the patient was done weekly till the completion of treatment. **Result**: Subjective parameters like hair fall, dandruff, itching, and roughness were significantly decreased and objective parameters like hair thinning, and hair diameter was significantly increased. **Conclusion:** Our study has shown the significant effect of *Raktamokshan* by *Jalaukavacharana* on patients with *Khalitya* (androgenic alopecia).

Keywords: *Khalitya, Shiroroga*, Androgenic Alopecia, *Jalaukavacharana*

INTRODUCTION

Ayurvedic medicine is a healthy-lifestyle system that people in India have used for more than 5000 years. *Ayurveda* emphasizes good health, prevention, and treatment of illness through lifestyle practices.

In *Ayurvedaic texts*, *Khalitya* is a *Tridoshaja Vyadhi* i.e., *Vata, Pitta, Kapha* with *Rakta Dosha*[1]. All *doshas* are involved but mainly *Pitta* and *Rakta Doshas* affect the condition. According to *Acharya Sushruta*, *Pitta* along with *Vata* by involving the roots of the hair (romakoopa) causes a fall of hair and thereafter *Kapha* along with *Rakta* obstructs the channel of *Romakoopa* leading to stoppage of the regeneration of the hair and this condition is known as *Indralupta, Khalitya*, or *Ruhya*[2]. The etiological factors like *Atilavansevan*[3,4], *Atiksharsevan*[5], *Viruddhahara*, *Usharbhoomi*[6], *Ati-atapsevan*, etc are responsible for vitiation of *Doshas* which leads to hair fall. In modern science, *khalitya* is correlated with Androgenic Alopecia[7] which is an androgen-related condition. It is of two types, male pattern baldness, and female pattern baldness. In male-pattern baldness, hair is lost in a well- defined pattern, hair loss typically occurs on the top and front of the head. Often partial or complete baldness and in female pattern baldness hair becomes thinner all over the head[8]. The primary cause of the disease is dihydrotestosterone (DHT), which comes from testosterone. DHT gets attached to the androgen receptor and attagrowthr follicles, causing hair to fall out and stopping the growing of new hair. Its prevalence in the general population was estimated at 0.1-0.2% with a lifetime risk of 1.7%[9]. Male was reported to be more affected than woman and children. Risk factors include a family history of the condition. The underlying mechanism involves features by the body to recognize its own cells with subsequent destruction of the hair follicles. Standard methods are available to diagnose hair disorders like clinical inspection, pull test, trichogram, biopsy, and screening blood tests. Trichoscopy is very useful for diagnose of hair and scalp diseases and can greatly improve clinical management[10]. *Acharya Sushruta* described the whole chapter for bloodletting (Leech therapy) *for Twak roga, Granthi roga, Sopha roga*, and *Rakta prodoshaja roga* like *khalitya*[11]. *Acharya vagbhata* also mentioned *Jalaukavacharana* in the case of *avagadha doshas* (deep-seated)[12]. *Jalaukavacharana* is safe, cost-effective and it is cold in nature so commonly used in *Raktaja* and *Pittaja* predominant *rogas*[13].

OBJECTIVES:

- Study about *Khalitya* w.s.r Androgenic Alopecia
- To evaluate the effect of *Jalaukavacharana* with the standard method.

METHODOLOGY

A case-control study was conducted, and all patients were from the Shalya Tatra department of Shri Krishna Government College, Kurukshetra, Haryana. After informed consent, relevant history was taken, and a clinical examination was performed. The following factors were considered: sex, age, personal and family history, severity, and duration of disease.

The study included 30 patients with *Khalitya* (Androgenic Alopecia). The diagnosis of AGA was based on clinical examination. Patients with any scalp disorders were excluded from the study. A trichoscopic examination was performed. Patients diagnosed with *Khalitya* (AGA) were treated with *Raktamokshan* by *Jalaukavacharana* (Leech Therapy) was done. Total sitting of *Jalaukavacharana* was done on day 1, day 7,

day 15, day 21 for one month. *Jalaukavacharana* is considered the most unique and most effective method of bloodletting. It can be tried in all mankind including females, children, old, and patients having poor threshold to pain. 6 leeches were applied over to the front-temporal region of both sides. When leeches left the site on their own after sucking blood for approximately 45 min, the dressing was done with *haridra* (Turmeric powder) and an antiseptic gauze piece. Removed leeches were put into *haridra* for emesis of blood sucked by them and put into a freshwater container and reused on the same patient after 15 days.

Assessment Parameters

Subjective parameters such as hair fall, dandruff itching, roughness and objective parameters such as hair diameter, hair density, hair thickness, and yellow dot were assessed to record the efficacy of treatment

Table 1: Gradation parameters for assessment

Subjective Parameters	Gradation
Hair Fall	
Absent	0
Mild	1
Moderate	2
Severe	3
Dandruff	
Absent	0
Mild	1
moderate	2
Severe	3
Itching	
Absent	0
Mild	1
moderate	2
Severe	3
Objective parameters	
Vellus Hair	
Absent	0
Present	1
H.S Heterogeneity	
Normal	0
Mild	1
Moderate	2
Severe	3
Yellow Dot	
Absent	0
Present	1
Hair diameter	
Significantly increased	++
Increased	+
Hair density	
Significantly increased	++
Increased	+

Figure 1.pre-operative procedure

Figure 2. operative procedure

Figure 3. Trichoscopy before treatment

Figure 4. Trichoscopy after treatment

RESULT AND OBSERVATION

All the 30 patients were registered between 20-50 years of age. In this study, the occurrence rate was more in males (83.33%) than the female (16.67%) due to the unhealthy diet, stress, and overuse of chemical products on hair. Now a days males are found more prone to chemically harmful products for looking hair shiny and straight. In this study, before treatment, the initial mean score of hair fall was 2.13 which was reduced to 0.93 with 56.25% relief after treatment. From a statistical point of view, the effect was highly significant (p-0.001). The initial score of dry hair was 1.67 before treatment which was reduced to 0.67 with 60% relief after treatment. From a statistical viewpoint, the effect was highly significant (p-0.001). The initial score of dry hair was 1.67 before treatment which was reduced to 0.67 with 60% relief after treatment. From a statistical viewpoint, the effect was highly significant (p-0.0). The initial score of dandruff was 1.50 before treatment, which was reduced to 1.33 with 68.89% relief after treatment. From a statistical viewpoint, the effect was highly significant (p-0.001). The initial score of itching was 1.46 before treatment, which was reduced to 0.33 with 77.27% relief after treatment. From a statistical viewpoint, the effect was highly significant (p-0.001). In this study, before treatment, the initial mean score of hair thickness was 1.07 which was increased to 2.13 with 99% relief after treatment. From a statistical point of view, the effect was highly significant (p-0.0). In this study, before treatment, the initial mean score of hair diameter was 1.03 which was increased to 2.00 with 93.54% relief after treatment. From a statistical point of view, the effect was highly significant (p-0.001).

DISCUSSION

The occurrence was highest in the age group of 21 to 30 years. The highest rate of disease in this youngster's group is due to the changing lifestyles, sleeping habits, unhealthy, stress, and high use of chemicals on hair. Khalitya is a slowly progressing disorder and it hampers the social life of an individual to a great extent., the occurrence rate was more in males (83.33%) than the female (16.67%) due to unhealthy diet, stress, and overuse of chemical products on hair. Now days male found more prone to chemically harmful products for looking hair shiny and straight. In Ayurvedic *texts, Jalaukavacharana* is an ideal therapy for *Raktamokshan* (bloodletting) in blood vitiated by pitta and is also suitable for females, children, and old age persons[14]. *Jalauka* has been classified into two groups each six in number on the basis of their *gunas* (nature) i.e., *Savisha*[15] (poisonous) and *Nirvisha* (non-poisonous)[16]. *Jalauka is Pittaghna* and *madhura* in nature[17]. The Probable mode of action of *Jalaukavacharana* as per the Ayurveda text suggests that it was due to its capacity of removing *Rakta dhatu* along with vitiated *doshas.* Although there is three *sharira dosha* at times *rakta* is also considered the fourth *Dosha* since *rakta dhatu* is the prime carrier of vitiated *pitta* in the whole of the body. This suggests that the vitiated *pitta dhatu* may be the loads of metabolic waste that is carried along with this circulatory fluid. When this *rakta dhatu* is expelled from the body it carries the vitiated pitta with itself and thus purifying the body by removal and further decreasing its quantum by compensatory production of healthy *Rakta Dhatu*, caused due to blood loss. It also states that the properly administered *Raktamokshan* cause *Prasad manas* and it prevents the development of *Raktaj Rogas* like *Twaka dosha, Granthi, Shopha*, etc. The probable mode of action of Medicinal Leech therapy depends upon two factors; Primarily the Amount of blood that is removed in the therapy by the suction action of leech which is approximately 5-15 ml blood and on an average 50-150 ml of blood that oozes up to 10-48 hours post-Leech therapy. The cause of the oozing of blood was leech saliva which is poured into the wound site during leech therapy sessions.

CONCLUSION

The study shows that male in the age group of 21-30 years is the main sufferers. The analysis of the *Nidāna(causative factors)* suggested all patients have an improper diet. All patients had hypofunction of *agni*. Cardinal symptoms of *Keshsthan (hair fall)* were present in all patients. The ultimate effect was achieved in the patients of *Khalitya* by the reduction of hair fall and controlling the vitiated pitta, *Vāta-Kapha, doṣha*. The therapy was assessed considering improvement and relief in cardinal and associated complaints of *Darunka (dandruff)*. Marked improvement in hair thickness and hair diameter was observed and the result was statistically significant. Hence, *Jalaukavacharana* is effective in the patients of *Khalitya*. This clinical study may be a platform for the planned randomized controlled study on larger samples which can be helpful to establish the effect of therapy. Hormonal imbalance and family history a play major role in hair fall and baldness induced by stress, and lack of nutritional diet disturb protein synthesis in the hair follicle and cause premature hair fall. Middle-class people are more prone to this disease, the reason could be due to the socio-economic status of the society. *Jalaukavacharana* is an easy and convenient para-surgical procedure that expels out the impure blood from the body and increases the blood flow into the blocked channels. Thus increasing the hair growth. It is an economical and cost-effective therapy with no side effects.

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