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TITLE

Management of *Indralupta* (Alopecia areata) through Ayurveda – A Case Study

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ABSTRACT

Background: *Indralupta* (Alopecia areata) is a disease of scalp in which the major clinical feature is loss of hair. The basic pathophysiology of *Indralupta* is the vitiated *Tridosha* (three body humours) and *Rakta* (blood & blood components) affecting the scalp. The pathology also reveals the blockage of hair follicles with aggravated *Rakta* and *Kapha* (one among *Tridosha*) which further prevents regrowth of hairs. **Aim:** To evaluate the role of Ayurveda treatment modalities in *Indralupta*. **Materials & Methods:** A female child aged 5 years suffering from single patch of hair loss over right parietal area was treated with both external and internal therapy which included carminative and nutritive medicines along with oil application and mild fomentation for a period of 4 weeks with follow up at every 14 days in between. Clinical assessment was done during both pre-and post-treatment period. Relief from the complaints was assessed by noting the changes in hair regrowth over the patch. **Results:** After 14 days of treatment slight regrowth of hairs was observed. After 2nd follow up the patch was covered with hairs but not completely. At the end of 1 month the patch was fully covered with hairs. Post treatment follow up was done for a period of 2 months which reported no recurrence of the complaints. **Conclusion:** The present case study revealed the efficacy of Ayurveda therapy including both external and internal medications for duration of 4 weeks in the management of *Indralupta*.

Keywords: *Alopecia areata, Ayurveda Management, Indralupta*

Introduction

Indralupta (Alopecia areata) is a disease in which hair loss from the scalp is the major clinical presentation. It is the clinical condition classified under one among the *Shiro Roga* (disease of head) [1] and *Kshudra Roga* (minor disease). [2] The disease is also called as *Khalitya* and *Rujya.*[3] The pathophysiology explained in Ayurveda say that *Pitta* (One among the *Tridosha*) associated with *Vata* (One among the *Tridosha*) gets lodged in *Romakupa* (hair follicles) and causes hair fall. At this area *Kapha Dosha* associated with *Rakta* causes obstruction to the hair roots and limits the regrowth [4]. Various localized treatment modalities like *Siravyadhana* (bloodletting), *Lepa* (medicine in the form of paste) application, *Abhyanga* [5] (oil application), *Swedana* (Fomentation) and *Nasya* [6] (medicine administered through the nasal route) along with *Rasayana* [5] (rejuvenating) therapy are advised in the context of *Indralupta*. The prime aim of the treatment is to increase blood supply, nourishment of scalp and promote regrowth of hair along with correction of nutritional deficiency. In the contemporary system of medicine, Alopecia areata stands as the similar clinical entity as that of *Indralupta*. Alopecia areata is a common skin condition characterized by localized loss of hair in round or oval areas without any visible inflammation on the scalp skin, or any skin symptoms [7]. Although no age is immune, it is mostly seen in age group from 15-50 years of both sexes. But it is also frequently seen in children. Scalp is the commonest site of the disease. Steroids is the only choice of treatment for this disease in contemporary system of medicine. Generally hair often regrows on its own but treatment helps the hair to regrow more quickly. [7]

Case Details

A Hindu, female child of 5 years of age visited OPD of the teaching institution with the OPD no-1706180038 for the following complaints.

Chief complaints

Single patchy hair loss since last one month.

Associated complaints were general weakness and poor appetite since 15-20 days

Details of History taken

Present and Past Illness:

As the mother explains, the child was asymptomatic 1 month back. Gradually she noticed thinning of hairs and hair loss. After a few days her mother noticed a patch of hair loss which was increasing in size day by day. There was gradual onset of general weakness and the child started refusing food because of lack of appetite. There was no significant past history in the child.

Birth and Development: both did not reveal any significant findings.

Immunization: All vaccines as per schedule were given except optional ones.

Personal: The details are as per Table no. 1.

The parameters assessed during general, systemic and local examinations are as per listed in the following tables 2-3.

Table No.1 – Details of Personal History

Sl. No.	Parameter assessed	Observation
1	Appetite	Poor
2	Diet	Mixed, More consumption of buffalo milk & milk products and fried foods
3	Bowel movements	Twice/day, Clear
4	Urine	4-5 times/day
5	Sleep	Sound
6	Habits	Nothing specific

Table No.2- Parameters assessed in General Examination

Sl. No.	Parameter assessed	Observation
1	Pulse	100/min
2	Blood pressure	100/70 mmHg
3	Height	104 cm
4	Weight	10 kg
5	Respiratory Rate	19 /min
6	Tongue	Normal, No coating
7	Eyes	Pallor - ++
8	BMI	9.2

Table no. 3- Parameters assessed in Local examination of scalp

Sl. No.	Parameter assessed	Observation
1	Site of involvement	Scalp - right parietal region
2	Size	2x4cm
3	Shape	Oval
4	Skin color	Slight reddish
5	Rashes/Discharge	Absent
6	Sensation	Present
7	Texture of hair	Generalized Thinning of hair

Treatment given

The treatment was planned according to the basic principles narrated in the context of *Indralupta* disease. It included both external and internal medications along with suitable *Anupana* (after drink), the details of which are cited in the following table. (Table no. 4). The ingredients of each medicine are also detailed in tables below. (Table no.5-7)

Follow Up

Follow up was taken after 14 days of treatment and for a period of 2 months post treatment.

Table No.4- Details of internal and external medicines given

Sl. No.	Medicine	Dose	*Anupana*	Duration
1	*Trikatu churna** (Poly herbal powder)	2gm	Ghee	BD, with food For 7 days
2	Poly-herbal syrup	10 ml	Water	BD After food For 4 weeks
3	*Shiroabhyanga* (oil application over scalp) with poly-herbal oil followed by mild fomentation	LA**	-	2weeks
4	*Gharshana* (rubbing) at site of patch with *Lashuna****	LA	-	2 weeks

* *Trikatu Churna* contains powder of three drugs namely, *Shunthi* (*Zingiber officinale* Roxb.), *Maricha* (*Piper* nigrum Linn.) and *Pippali* (*Piper longum* Linn.). [8]
LA – Local Application * *Lashuna* (*Allium sativum* Linn.) [9]
Local application of poly herbal oil was continued for another 2 more weeks.

Table no. 5 - Contents of Poly-herbal Syrup

Sl. No.	Contents of poly-herbal syrup	Part Used	Proportion
1	*Amalaki* (*Emblica officinalis* Gaertn.) [10]	Fruit	250mg
2	*Yashtimadhu* (*Glycyrrhiza glabra* Linn) [11]	Root	100mg
3	*Gokshura* (*Tribulus terrestris* Linn) [12]	Fruit	100mg
4	*Ashwagandha* (*Withania somnifera* Linn.) [13]	Root	75mg
5	*Guduchi* (*Tinospora cordifolia* Willd.) [13]	Stem	40mg
6	*Madhu* (honey) [14]		Q.S

Table no.6 - Contents of poly-herbal oil

Sl. No.	Contents of poly-herbal oil
1	*Mahamarichyadi taila*[15]
2	*Karanja* (*Pongamia pinnata* Pierre.) [16] oil
3	*Nimba* (*Azadirachta indica* Juss.) [16] oil
4	*Karpoora* (*Dryobalanops camphora* Gaertn.) [17] oil
5	Purified *Gandhak*[18] (Sulphur)
6	Purified *Tankan*[18] (Borax – Sodium Borate)
7	Purified *Tuttha*[18] (Copper Sulphate)

Observations

Observations made in the child during the follow up and completion of the treatment are tabulated below with the pictures of the affected area of scalp (Table no. 7-8 and Fig.no.1-3)

Table No.7 – Observations in the patient during and after treatment

Sl. No.	Follow up	Observation
1	14th day	The patch was covered with hairs but not completely (Pic. No. 2)
2	28th day	The patch was fully covered with hairs (Pic. No.3&4)

Table No. 8 Local examination after Treatment

Sl. No.	Site of involvement	Scalp -right parietal region
1	Shape	No patch present
2	Signs of inflammation	Absent
3	Rashes /Discharge	Absent
4	Sensation	Present
5	Texture of hair	Dense, completely covering the area

Fig. no. 1- First day of treatment

Fig. no. 2- 14th day of treatment

Fig. no. 3 & 4 - 28th day of treatment

Discussion

The present case study demonstrated a case of *Indralupta* in a female child of 5 years with recent onset of clinical signs and symptoms. According to Acharya *Sushruta*, *Pitta* along with *Vata* getting localized at the roots of hair follicles causes hair fall and thereafter *Kapha/ Shleshma* along with *Rakta* obstructs the channel of these hair follicles leading to cessation of regrowth of hair over that area and this condition is known as *Indralupta, Khalitya* or *Rujya.* [4] Thus derangements of *Vata, Pitta, Kapha* and *Rakta* are the main internal causative factors of *Indralupta*. While describing the disorders occurring due to over indulgence in *Kshara* (alkaline) *Lavana* (salty) and *Viruddha* (contradictorily acting) food articles there is mention hair loss. It has also been mentioned that excessive intake of *Lavana* (salt) causes *Khalitya* (morbid baldness) [19-20]. Thus, it can be said that a person habituated to excessive *Lavana* or *Kshara* intake and taking *Viruddha Ahara* in routine, is prone to develop *Indralupta*. In the present case, the child had the history of excessive intake of packet food like chips, wafers, noodles and biscuits. Packet foods are generally highly salty, spicy and alkaline too. The preservatives in the packet foods may be acting as *Virudha Ahara* if consumed in excessive quantity. These might have caused vitiation of *Pitta Dosha* in the child and caused the problem of patchy hair loss.

Dairy products, especially of buffalo milk are generally *Guru* (heavy to digest), *Snigdha* (Fatty), *Abhishyandi* (blocking the channels of body), *Madhura* (sweet) in taste and reduces digestive capacity. [21] Oily and fried foods are also heavy to digest. [22]

Thus intake of these food articles on regular basis causes *Agnimandya* (low digestive capacity). During history taking, the mother of the child revealed that the child consumed milk of buffalo and milk products in more quantity. Intake of fried and oily food was also more. Thus the child was complaining of lack of appetite which indicates *Agnimandya* causing improper digestion of ingested food indirectly affecting the nutritional status of the child. During the process of digestion along with the formation of seven *Dhatu* (supportive tissues of body) of the body there is also formation of *Updhatu* (minor supportive tissues of body) and *Mala* (waste product). One of the waste product of *Asthi* (Bone) *Dhatu* is *Kesa* (hair) [23]. When there is improper metabolism there will be no formation of proper *Sara* (essence) or *Kitta* (waste). Low digestive fire is a major factor which affects normal metabolism in the body. Thus, in the present case, low digestive capacity and impaired metabolism in the child affecting the level of both micro and macro nutrients of the body might have affected the hair growth causing hair loss.

Although no definite role of micro/ macro nutrients has been proven, a few small-scale studies suggest the role of micronutrients in hair growth. [24] The poly herbal powder contained drugs having carminative and digestive properties while the poly-herbal syrup contained drugs having *Rasayana* [25-27] (rejuvenating) and *Balya* [20-29] (strengthening) property. These helped in improving digestion and metabolism which in turn corrected absorption of nutrients. The syrup helped in reviving the body tissues back to their proper functioning correcting the formation of *Sara* and *Kitta* which in turn modified hair growth.

Human physiology explains that hairs are elastic keratinized threads which develop from epidermis and extend downward into subcutaneous tissue. Each hair has a shaft and root embedded in the tubular hair follicle in the skin which is associated with one or more sebaceous gland. The sebum which is a greasy secretion of the sebaceous gland prevents the scalp becoming dry and maintains the normal skin texture. The peculiarity of hairs of the head is that they do not possess the medulla. It is also to be noted that hairs have no blood vessels but receive nourishment from blood vessel of papilla. Thus, hair growth occurs by multiplication of cells from the papilla.[30]

In Ayurveda *Lashuna* is explained as having *Tikshna* (penetrating), *Ushna* (hot) [8] qualities. So when applied locally over the patch of hair loss, it might have increased the blood supply over the area and stimulated hair growth. As per classical references of treatment in *Indralupta*, local *Abhaynga* and *Swedana,* [32] in the form of application of poly-herbal oil processed with drugs having *Pitta* and *Rakta* pacifying qualities reduced *Dosha* vitiation at site and stimulated hair growth by creating enough *Snigdhata* (moisture or lubrication) added up with the stimulatory effect of mild fomentation curing the cutaneous defects related to hair growth. These localized therapies might have also helped to improve blood circulation to the papilla of hair follicles and modified the function of sebaceous glands in turn stimulating the newly present hair which is said to be located on the side of the shed hair [31] helping in replacement of lost hair.

To add upon the prognosis in the present case, as told in the classical textbooks of Ayurveda, *Indralupta* is said to be curable with various treatment modalities as cited above.

The present case was of recent onset which got completely cured with re-growth of hairs over the patch. The efficacy of the treatment was assessed by changes in clinical features before and after treatment which were both subjective and objective. In the follow up period of 2 months there was no recurrence of hair loss in the present case.

Conclusion

The present case study shows the efficacy of Ayurveda intervention including both external and internal medications applied following the treatment strategy as explained in classical text books in a case of *Indralupta* of a child. The drugs helped in regrowth of hairs improving the blood circulation over the hair roots and providing a favorable condition for hair growth. Such similar treatment protocol can be followed in the cases of *Indralupta* disease of recent origin in children. There was no ADR reported during or after treatment.

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