

CONCEPT OF HAIR AND HAIR DISEASES IN AYURVEDA

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ABSTRACT:

Healthy, long and vibrant hair helps a lot in the improvement of personality. Therefore, keeping hair in a healthy state is entirely the important for human-being, because just like the face, hair is also a mirror of a healthy state of the body. Disorders like hair fall, greying of hairs, dandruff are commonest among young adults today, causing stress and inferiority complex among people. According to Ayurveda, in a living body, all the ailments and sufferings are due to the disharmony and disequilibrium of the Doshas(Physiological regulator of body). Hence, the main aim of Ayurvedic therapies is to treat disorders, prevent disease and rebalance the body Dosha, Dhatu(Tissue), Malas(Excretory waste), Mana(Mind)and Gunas(Spiritual connection). Hair according to Ayurveda is closely related to AsthiDhatu(Bone Tissue). Any product which increases AsthiDhatu will consequently help to improve the quality of hair. Khalitya(Alopecia), Palitya(Premature greying of Hair), Darunaka(Dandruff) can be treated with modalities like Siraveda (Blood-letting) or Prachana(type of purification therapy in Ayurveda), Nasya(Nasal Drop) therapy, different Lepa application and regular Tail Abayanga (oiling) of scalp. Preventive modalities include using Rasayana as Aahar or drugs to be started early in middle age and use of Keshya(hair health promotor) drugs mentioned in classics.

Keywords: Khalitya, Palitya, Darunaka, Rasayana, Keshya.

1. INTRODUCTION:

Ayurveda is more than a healing system[1]. It is an ancient medical science and art for an appropriate lifestyle, which helps us to achieve longevity. Improper *Aahara*, (diet),[2][3] not following the principle of *Dincharya* (Daily routine)[4] and *Ritucharya* (Night routine)[5] living in a polluted environment and stressful work culture fasten the process of ageing. Rasayana[6] is the group of medicine and activities which decrease & reverts the process of ageing. Besides *Rasayana Dravaya*, *Rasa*(Mercury)[7], *Lauha*(Metals)[8], *Ratana*(Gems)[9], *Visha* (Poisons)[10] and some formulations are works as *Rasayana*. Beautiful, long, shiny hairs are among asset of a person. They are to be maintained and protected with the utmost care. In Ayurveda, hair diseases are described and treated under three types as *Khalitya* (loss of hairs), *Palitya* (premature hair greying) and *Indralupta* (white patches of hair fall

on the scalp) as alopecia areata[11]. In this advanced modernized era, humans are gifted with a lot of sophistication, luxuries but at the same time left with a sedentary lifestyle, stress-induced hectic schedules alongwith faulty dietary habits. All these habits influence the homeostasis of the body and with many other health problems. As people are getting aware of the ill effects of chemical products the flow is inclined towards Ayurveda to seek a healthy and safer treatment for beauty issues.

2. ORIGIN OF HAIR -

In Ayurveda it is mentioned that the human body is made up of the main seven *Dhatu*s (body elements) viz. *Rasa*(Intracellular fluid and extra cellular fluid), *Rakta*(Blood Cells), *Mansa*(Muscles), *Meda*(Adipose tissue), *Asthi*(Bones and cartilages), *Majja*(Bone Marrow) and *Shukra*(Reproductive Tissue). The majority of Acharyas believe that the production of later *Dhatu* occurs from

former *Dhatu* by the function of their respective *Agni* (Metabolic power) i.e. the *Rasagni* turns the *Aahara-Rasa* into *Rasa Dhatu* then *Raktagni* converts part of *Rasa Dhatu* in *Rakta* and so on. Along with the production of later *Dhatu*, there is side by side production of *Upadhātu* (Secondary tissue) & mala of former *Dhatu*. During this process of production of *Dhatu* when the metabolism of *Asthi Dhatu* occurs by its own *Agni* & *Majja Dhatu* emerges from *Sara Bhaga* (Extract part) and at the same time hair of scalp & body and nails form as *Mala* [12]. According to Acharya Sharangadhar, Scalp and body hair are the *Upadhātu* of *Majja Dhatu* [13]. Among all the *Garbhaj Bhava* (factors for the development of foetus), hair is *Pitraj Bhava* means structure, colour and quantity of progeny are dependent on the paternal side [14]. Hair made-up of mainly *Parthiva Mahabhoota* (earth element). Hair formation starts during the sixth month of intrauterine life [15]. The word '*Kesha*' originally has been brought about from "*Shee*" with "*Ach + Aluk Samasah*" which has been explained as "*Ke Mastake Shete Iti*" by *Halayudha Kosha* [16]. The word '*Keshya*' is suggestive of '*Keshaaya Hitam Yat Tat*'. It means that which is good for hair.

3. HAIR GROWTH

In modern Medical Science Hair grows in three different phases –

1. **Anagen phase** – This phase determines the length of the hair. Most of our scalp hair is in this anagen phase for almost about 7 years until some unknown factors push the hair to go into the catagen phase. This phase can be correlated to *Kapha Kaal* of the hair follicle as the growth is steady and for long duration and also the first phase of hair follicle growth.
2. **Catagen phase** – In this phase the hair follicle stops growing and gets converted to a club hair. Somewhat representing the *Pitta* phase of growth.
3. **Telogen phase** – The last phase of growth of hair follicle where the follicle goes into a dormant resting phase and the hair shaft is shed off. A phase that can closely be related to the *Vata Dosh* functions.

4. DISEASES OF HAIRS IN AYURVEDIC CLASSICS:

4.1. KHALITYA:

According to a survey, up to 40% of men & 25% of women in India are sufferers of hair-fall [18]. For thousands of years, men and women of all countries and races have shared the tragedy of premature hair loss. Due to the hair fall, man does not look beautiful. The man is a social person and due to this problem, he feels inferiority complex. In Ayurvedic science, increased falling of hair is termed as '*Khalitya*'. Different types of oils (chemical oils), shampoos, soaps and pharmaceutical propaganda for promoting hair growth make the condition worse. The present known modalities of treatment don't have any satisfactory answer to this problem. Excessive consumption of salt and *Kshara* leads to *Khalitya* [19]. Acharya Sushruta, Acharya Chakradatta, Sharangdhara, Bhavmishra and Vangasen have mentioned *Khalitya* in *Kshudraroga* (Minor disease). In *Charak Samhita*, the disease *Khalitya* also has been included in *Urdhvajatrugatroga* (Disease of ENT and Eyes) [20]. Acharya Vagbhatta has also described *Khalitya* in *Shirogata Rogas* under the caption of *Urdhavajatrugata Rogas* and these are further subdivided into nine *Kapalagata Roga* [21]. As per Acharya Sushruta, *Vidagdha Pitta* along with *Vata* reaches *Romakoopa* and causes hair fall and thereafter *Shleshma* along with *Shonita* obstructs the *Romakoopa* which leads to the stoppage of regeneration of hair and this condition is known as *Indralupta*, *Khalitya* or *Ruhya* [22]. According to Acharya Vagbhatta, there is a gradual loss of hair [23]. Acharya Charaka describes that *Tejas* combining with *Vatadidoshas* reaches the *Shirakapala* and causes hair fall by *Dahana* of *Romakoopa* (hair follicles) [24]. The whole aim to reduce the hair fall now points towards increasing the duration of the anagen phase. Anti-inflammatory drugs, antioxidant drugs and androgen inhibitors are said to elongate the anagen phase when used topically [17].

4.1.2. TREATMENT MODALITIES:**1. Hair Care:**

Along with these precautions, patients of hair fall need to adopt a healthy lifestyle. For the care of hair, various methods discussed in Samhita are as following.

A) Moordha tail (oiling) and paste for local application over scalp: Oil should be regularly applied on the scalp. It prevents falling of hair, baldness and also makes the hair black long and deep-rooted. It provides nourishment to the hair follicles and also gives strength to the cortex and fiber of hair[25]. Mustard oil or Coconut oil can be used regularly for massage oil hair.

B) Nasya (nasal drop): Everybody should take a nasal drop of "Anu tail" every year during the rainy, autumn and spring season when the sky is free from the cloud. Along with many other benefits, it prevents hair fall and also accelerates the growth of hair[26]. *Nasya* nourishes the *Srotas* present above the clavicle including the hair follicles which strengthen the hair and reduce falling.

C) Snana (taking bath): Acharya Sushruta mentions that the head and hair should not be washed with warm water or with very cold water. Pouring warm water over the head reduces the strength of hair & eyes[27]. Proper hair wash should be done at least three times in a week. Shampoos and soaps used for hair wash should be mild and free from chemicals. Decoction or Shampoo made up of herbs like *Henna*, *Bringraj*, *Jatamansi*, Shoe flower, *Triphala*, *GhrithKumari*, *Shikakai*, *Motha*, *Bhrami* etc. can be used for washing hair.

D) Dhoomapana (medicated smoke): Along with health of head & senses, *Dhoomapana* cures the problem of hair fall by clearing the *Dosha* from the head region and also improves the firmness of hair on the head, beard & teeth[28].

E) Kshaurakarma: Haircutting & proper care of the hair of scalp & beard should be done regularly. Acharya Charaka mentioned that everybody should have a hair - cut, shave and nail cut thrice every fortnight[29].

F) Ushnishka: The wearing of *Ushnishka* (turban or cap) on head protects the hair from wind, heat, dust etc. which is pious and beneficial for hair[30]. Covering of head protects the hairs from the environmental factors.

G) Leech Therapy: Some Ayurvedic physicians use leech therapy at the bald spots before using the local medications[31]. AstangaSamgrahkara has quoted that the application of different types of *Pralepas*(ointment) should be performed after doing *Prachhana* or *Shuchikarma*[32].

H) Virechana karma: *AbhyadiModaka* can be useful in *Khalitya*. *AbhyadiModaka* is indicated in *Palitya*(greying of hair), it can also be used for *Khalitya* (hair fall) as the *Samprapti*(pathogenesis) of *Khalitya*&*Palitya* is the same[33].

I) RasayanaPrayoga: Acharya Sushruta advises *Rasayana* in *KhalityaChikitsa*[34]. According to modern science, the specific cause of alopecia is an autoimmune disease and *Rasayana* drugs act as immunomodulators in *Khalitya*. As premature hair fall is a sign of early aging process and *Rasayana* is best for reversing aging process means anti-aging therapy. There are following *Rasayana* which can be given in *Khalitya*:

2. AmalakiRasayan[35].

3. ShwadanshtradiRasayan[36].

4. Medicated oils are used for local application. There are following oils advised for *Abhyanga* in *Khalitya*:

a) Bhringarajatailam[37].

b) Chitrakadyatailam[38].

c) Irimedaditailam[39].

5. Lepa

a) Gunjalepa[40].

b) Hastidantamasilepa[41].

c) Kutannatadilepa[42].

6. Yoga: Sarvangasan

Sarvangasan affects Cardio-vascular System, C.N.S & Thyroid Gland. It increases blood flow in the brain, which nourishes the brain and hair. Due to this, it prevents hair falling and promotes the growth of new hairs[43].

4.2.1. PALITYA:

The *Agni* and *Pitta* of the body having recourse to the head owing to overwork and fatigue, and excessive grief or anger, tend to make the hair prematurely grey. *Palitya* disease has been explained in all Samhitas in a different chapter. Sushruta explains *Palitya* in *KshudraRogaadhikara*[44], Vagbhatta in

ShiroKapalagataRogas[45] and Charaka under *UrdhwaJatrugataRogas* [46].

Lakshana on the basis of different doshas:

Hairs are split, ash colour, rough, dry and resembles water - *Vataja*, Burning sensation in the

scalp and the hairs are yellowish - *Pittaj*, the scalp is unctuous and hairs are growing thick and white - *Kaphaja*, presence of all the features should be noticed - *Tridoshaja*[47].

Some Important Ayurvedic Hair Colour Plants:

S.No.	Sanskrit name	Useful part	Botanical name	Reference
1.	Japa	Flower	<i>Hibiscus rosa-sinensis</i>	Bh.pr.Ni5/58 Bh.Ra.60/75-77
2.	Neeli	Leaf and Flower juice	<i>Indigoferatinctoria</i>	Bh.Pr.Ni.4/208 BH.rat.60/69
3.	Madyantika	Leaf juice	<i>Lawsoniainermis</i>	Su.Ch.25
4.	Bhringraj		<i>Eclipta alba</i>	B.P.NI4/241 BH.RA.60/7577
5.	Haritaki	Fruit	<i>Terminalia chebula</i>	Bh.ra.60/69
6.	Vibhitak	Bark	<i>Terminalia balarica</i>	Bh.ra.60/69
7.	Aamlaki	Fruit	<i>Emblicaffincinalis</i>	Bh.ra.60/69

4.2.2.TREATMENT MODALITIES:

1. In Ayurveda, Nasya treatment is stated as one of the best treatments for *Palitya*. Different oil is described in different Ayurvedic text for Nasya therapy in *Palitya*.

- Vidarigandhataila (*Desmodiumgangeticum*)[48].
- Sahacharaditaila(*Calacanthusgrandiflorus*) [48].
- Bhringarajtaila (*Ecliptaalba*)[49].
- Nimbataila(*Azadirachtaindica*)[49].
- Sheilutaila(*Moringaoleifera*)[49].

2. Different *Yoga* (formulation) are also mentioned for *Lepa* [48].

- Dugdhika-karavira yoga.
- Tiladi yoga.

3. *Loha Yoga* decoction has been suggested for washing hair[50].

4. *Triphala, Nilivruksha, LohaBhasma, Bhringaraja* mixed with sheep's urine should be applied, which makes the hair black[50].

Premature greying is defined as the onset of greying before the age of 20 in Caucasians and before the age of 30 in Africans and Asians or when 50 percent or more of scalp hair turns grey before the age of 50[51].

Premature greying may be hereditary, seen with hyperthyroidism, skin diseases, malnutrition, pernicious anemia, chemotherapy, following high fever such as malaria and systemic diseases. Also, few general causes like faulty diet, mental worries, hormonal imbalance, nutritional deficiency, using electric dryers and concentrated hair dyes lead to premature greying of hairs[52].

4.3.1.DARUNAKA

Ayurveda advises every individual to select the proper choice of diet (*Aahara*) and living habits (*Vihara*) to restore the equilibrium of the body and mind. Thus it prevents diseases by gaining a foothold in the health system[53]. Every human

being is having a lot of consciousness and also alertness towards skin scalp. Among them, *Darunaka* (Dandruff) management is a very challenging problem despite all the modern tools in our hands. Many factors are responsible for a specific problem (*Darunaka*)[54]. Dandruff (Pityriasis Capitis) is a common scalp disorder affecting almost half of the population at the pre-pubertal age and of any gender and ethnicity[55]. No population in any geographical region would have passed through freely without being affected by dandruff at some stage in their life[56]. Dandruff affects aesthetic value and often causes itching. It has been well established that keratinocytes play a key role in the expression and generation of immunological reactions during dandruff formation[57]. The severity of dandruff may fluctuate with season as it often worsens in winter[58]. The prevalence of Dandruff is high, in India 18.38%[59]. It occurs in both sexes and persons of all races[60].

In *Darunaka*, due to *Kapha Pitta Prakopa* the scalp becomes hard itchy rough and scaly[61]. The dead tissue shedding down from scalp, with symptoms like *Kandu*, *KeshaChyutiRookshata*, *Twaksputana*, etc. due to the vitiation of Vata and Kaphadosha [62].

4.3.2.TREATMENT MODALITIES:

1. *Tankan* (Borax) is applied on hair and kept for 5 to 10 minutes and then washed out[63].
2. For local application- paste of Chironji seeds (*Buchananialanzan*), Yashtimadhu (*Glycyrrhizaglabra*), Kutha (*Saussurealappa*), Urad (*Vigna mungo*) and Saindhavlan mixed with honey or application of paste of seed of mango powder with Haritaki (*Terminalia chebula*) powder is also suggested. [64]
3. The affected parts should be washed with the alkaline solution of *Kodravaseeds*[64].
4. *Abhyanga* (massage) with oil which will decrease the vitiation of *Vata* and *Kapha* like oil

1. KESHYA DRUGS

Keshya is a drug beneficial to hairs. Bhavprakashnighantu has mentioned a total of 16 drugs, which possess *keshya* property (mentioned in a shloka from). These drugs can be used for therapeutic and preventive purposes in hair disorders.

- | | |
|---------------|------------|
| (a) Vibhitaka | (c) Bijaka |
| (b) Sinduvara | (d) Gunja |

prepared from *Gunja* and *Bhringaraj* should be used[64].

5. *Siraveda* (taking out of impure blood), *AvapidaNasya therapy* and *Sirobasti* are very effective[64].

4.4.1.INDRALUPTA:

Alopecia areata or spot baldness is an autoimmune disease characterized by the hair loss on the body especially on the scalp, face and sometimes on other areas of the body without any clinical inflammatory signs. Its prevalence in the general population was estimated at 0.1- 0.2% with a lifetime risk of 1.7%[65]. Male was reported to be more affected with the disease in comparison to children and women, but it causes more emotional problems in woman and children due to cosmetic concern [66].

Alopecia can be the cause of psychological stress, individuals with it may experience social phobia, anxiety, and depression. Acharya Charaka mentions that *Tejas* by involving *VatadiDosh* when reaches the scalp, it results in *Indralupta*[67]. Vitiated *Rakta* and *Kapha* block orifices of hair follicles, restrict the growth of new hair[68]. So in the pathogenesis of *Indralupta*, according to Acharya Sushruta, four *Doshas* of the body are involved.

4.4.2.TREATMENT MODALITIES:

An oil cooked with *Malati*(*Combretumindicum*), *Karavira*(*Nerium oleander*), *Chitraka*(*Plumbagozeylanica*) and *Naktamala*(*Pongamiapinnata*) is highly efficacious in curing a case of Alopecia if used as an unguent [69]. The bald part or seat should be anointed and fomented, and then bleeding *Siravedhan* (by venesection) should be resorted to, after which a plaster composed of *Manashila*, *Kasisa*, *Tuttha* and *Maricha*, *Kutannata* and *devadaru* pasted tighter, should be applied to it[70]. *Rasayanamedicine* should be administered for its cure[71].

- | | |
|----------------|----------------|
| (e) Gunja | (k) Avidugdha |
| (f) Bhringraja | (l) Sairaiyaka |
| (g) Nili | (m) Bhallataka |
| (h) Kadli | (n) Japa |
| (i) Bakuchi | (o) Tila |
| (j) Bakuchi | (p) Gambhari |

Out of 16 drugs, 14 are of plant origin, 1 is of animal origin (*Avi-Dugdha*) and 1 is of mineral origin (*Kasisa*). On critical analysis of these drugs, it is found that the maximum number of drugs is of *Tikta-Kashaya-Madhur rasa* pacifying *pitta*, *RukshaGuna* and *UshnaVirya* pacifying *Vata* and of *KatuVipaka* pacifying *Kaphadosha*. They perform *Vata Kapha* reducing *Karma* and are *Keshya* in nature.

CONCLUSION:

Hair is an important part of body. It has very exceptional value enhance of the beauty. Incidence of hair diseases are increase very abruptly. Faulty dietary habits, lifestyle and stressful living, inappropriate nutrition or exasperating factors lead to depletion of the function of the hair root. Several types of oils and *Lepa* for *Abhyang* (Massage) greatly improve the blood circulation, thus increasing the nutrition of the hair roots & scalp. *Sarvangasan* also increases the flow of blood in the brain and prevents hair fall. Many products related to hair care flooded in the market that claims they are Ayurvedic and Herb. But use of any one of the product may not be used before consultancy of physician, as does not give desired benefit. In Ayurveda various type of therapy are prescribed in different disease. Thus, hair disease can only be cure by strictly following the Ayurvedic Fundamental of treatment.

REFERENCES:

- Engler, R.J., & Li, X. M. (2014). Complementary and Alternative Medicine. In Middleton's Allergy (Eight edition), pp- 1636-1661.
- ShastriKasinath, Vidyotini Hindi commentary on Charaka Samhita Part 1, Sutrasthan, Chaukhamba Sanskrit Sansthan, Varanasi, edition 8, 2008, verse- 5/8, pp- 76.
- AtridevGuptKaviraj, Vidyotini Hindi commentary on AstangaHridya of Vagbhata, Sutrasthan, chaukhambaparakshan, Varanasi, reprint edition 2007, verse- 2/19, pp- 27.
- AtridevGuptKaviraj, Vidyotini Hindi commentary on AstangaHridya of Vagbhata, Sutra Sthana, chaukhambaparakshan, Varanasi, reprint edition 2007, verse-2/48, pp- 32.
- ShastriKasinath, Vidyotini Hindi commentary on Charaka Samhita Part 1, Sutra Sthana, Chaukhamba Sanskrit Sansthan, Varanasi, edition 8, 2008, verse- 6/4, pp- 92.
- ShastriKasinath, Vidyotini Hindi commentary on Charaka Samhita Part 2, Chikitsa Sthana, Chaukhamba Sanskrit Sansthan, Varanasi, edition 8, 2008, verse- 1/1/7-8, pp- 3.
- Candrashekrant, Anadkanda, Madaras Government oriental series, Edition 1952, verse-23/10 pp- 384.
- Sharma MishrGulraj, Hindi commentary on Ayurved Prakash, edition 2014, verse- 3/2, pp- 343.
- ShastriAmbikadutta, Rasa RatanaSammuchaya, Chaukhamba Amar Bharti Prakashan, Varanasi edition 10 verse- 4/1, pp- 90.
- Shastri Kashinath, Hindi commentary on Rasa Tarangini of Sadanand Sharma, 11th edition 2009, MotilalBanarsi das, verse- 24/7-8, pp- 343.
- Bouldin A.S., Smith M.C., Garner D.D., Szeinbach S.L., Frate D.A. and Croom E.M. (1999). Pharmacy and herbal medicine in the US. Soc Sci Med., 49(2), 279-289.
- Agnivesha, Charaka Samhita English translation, vol. IV, Chikitsa Sthana, grihanidoshachikitsaadhyaya (15; 19). Varanasi: Chaukhambha Sanskrit Series office; 2009, pp-15.

13. Sharngadhara, Sharngadhara Samhita, Prof. K. R. Srikanta Murthy, Prathamakhand, kalaadikakhyanaadhyaya(5:15).Varanasi: Chaukhambhaorientalia; 2001,pp-21.
14. Agnivesha, Charaka Samhita, English translation, vol. II, Dr. Ram Karan Sharma and Vaidya Bhagwan Dash, Sharirasthan, khuddikagarbhavakrantishariraadhyaya (3;7). Varanasi: Chaukhambha Sanskrit Series office; 1985,pp-371
15. Vagbhat, Astangsamgraha,Sasilekha Sanskrit commentary by Indu, Prof.JyotirMitra, Sharirasthan, garbhavakrantiadhyaya (2;23). Varanasi: ChaukhambhaKrishnadas Academy; 2008, pp- 278.
16. <https://www.scribd.com/collections/3567269/Halayudha-Kosha> (Jaishankar Joshi, HalayudhaKosh) edition 2nd, pp-245.
17. JS Pasricha, guptaRamji, Illustrated Textbook of Dermatology, 2nd edition 2001, New Delhi; Jaypee Brothers; pp- 118.
18. RajaniThankan, Vasant Patil, PrasannaAithal. Clinical Study On Effect Of Different Procedures Of Nasya With BhringarajaTaila In Khalitya, Journal Of Ayurveda And Holistic Medicine, April, 2014, Volume 2, Issue 4.
19. Agnivesha, Charaka Samhita, English translation, vol. II, Dr. Ram Karan Sharma and Vaidya Bhagwan Dash, Vimanasthan, Rasvimanadhyaya (1;17-18). Varanasi: Chaukhambha Sanskrit Series office; 1985, pp- 121.
20. shastriKashinathaand chaturvediGorakhanatha ed. Charakasamhita-II Chikitsasthan, 26/133, chaukhambhaBharati Academy, Varanasi, reprint-2012, pp-744.
21. KavirajaAtridevaGupt, AstangaHridaya-Uttartantra, 23/24-25, Chaukhamba publication, Varanasi, reprint-2012, pp-728.
22. ShastriAmbikadatta, Sushruta Samhita, Nidanasthan, 13/32-33, Chaukhamba Sanskrit Sansthan, Varanasi, reprint-2012, pp- 368.
23. KavirajaAtridevaGupt, AstangaHridaya-Uttartantra, 23/26, Chaukhamba publication, Varanasi, reprint-2012, p;728.
24. Kashinathashastri and Dr.Gorakhanathachaturvedi ed. Charakasamhita-II Chikitsasthan, 26/132, chaukhambhaBharati Academy, Varanasi, reprint-2012, p;744.
25. Agnivesha, Charaka Samhita, English translation, vol. I, Dr. Ram Karan Sharma and Vaidya Bhagwan Dash, Sutrasthan, Matrashiteeyadhyaya (5;81). Varanasi: Chowkhambha Sanskrit Series office; 2006. p. 124.
26. Agnivesha, Charaka Samhita, English translation, vol. I, Dr. Ram Karan Sharma and Vaidya Bhagwan Dash, Sutrasthan, Matrashiteeyadhyaya (5;57-58). Varanasi: Chowkhambha Sanskrit Series office; 2006. p. 120
27. Sushruta, Sushruta Samhita, English translation, vol. II, KavirajKunjalaBhishagrata, Chikitsasthan, Anagatabadhapratishehdhaneeyadhyaya (24;56). Varanasi: Chowkhambha Sanskrit Series Office; 2002.p. 570.
28. Agnivesha, Charaka Samhita, English translation, vol. I, Dr. Ram Karan Sharma and Vaidya Bhagwan Dash, Sutrasthan, Matrashiteeyadhyaya (5;30). Varanasi: Chowkhambha Sanskrit Series Office; 2006. p. 114.
29. Agnivesha, Charaka Samhita, English translation, vol. I, Dr. Ram Karan Sharma and Vaidya Bhagwan Dash, Sutrasthan, Indriyopakramaneeyadhyaya (8;18). Varanasi: Chowkhambha Sanskrit Series Office; 2006. p. 171.)
30. Sushruta, Sushrutasanhita, AyurvedatvaSandipika Hindi Commentary, Dr. A. Shastri, Chikitsasthan, Anagatabadhapratishehdhadyaya (24;75) Varanasi: Chaukhambha Bharti Academy; 2010. p. 137.
31. JoshiGaurang, Baldness (Alopecia) and AlopaciaAreata and its Ayurvedic Management,Aug10, 2015,<http://www.boloji.com/index.cfm?md=Content&sd=Articles&ArticleID=1099>)
32. AtridevaGuptKaviraja, AstangaSamgraha- II, Uttartantra 28/35, ChaukhambaKrishnadas Academy, Varanasi, reprint-2011, pp-292.
33. International Journal of Ayurvedic Medicine, 2014, Conceptual Study of Virechana Karma by AbhayadiModak in Khalitya, Kanungo Swati, KadusPriyadarshani Arvind, VedpathakSurendraMartand, <http://ijam.co.in>

34. ShastriAmbikadatta, SushrutaSamhita, Chikitsashasthan, 20/25-26, Chaukhamba Sanskrit Sansthan, Varanasi, reprint-2012, pp-117.
35. shastriKashinatha and chaturvediGorakhnathCharakasambhita-II Chikitsasthan, 1/2/75, chaukhambhaBharati Academy, Varanasi, reprint-2012, pp-18.
36. TripathiBrahmanand, AstangaHridaya, Uttartantra, 39/159, Chaukhamba Sanskrit Pratishthan, Varanasi, reprint-2011, pp-1202.
37. TewariPremvati, Vrndamadhava or Siddha Yoga, Kshudraroga-adhikara, 57/104, ChaukhambhaVisvabharati, Varanasi, reprint-2007, pp-530.
38. TewariPremvati, Vrndmadhav or Siddha Yoga, Kshudraroga-adhikara, 57/103, ChaukhambhaVisvabharati, Varanasi, reprint-2007, pp-530
39. TripathiBrahmanand, Sharangadhara Samhita, MadhyamKhand 9/163-167, ChaukhambhaSurbharati Publication, Varanasi, reprint-2010, pp-242.
40. Mishra Siddhi Nandan, RasaratnaSamuchchayah, ShirorogaChikitsa, 24/87, ChaukhambhaOrientalia, Varanasi, reprint-2011, pp- 573.
41. Mishra Siddhi Nandan, Hindi commentary on BhaisajyaRatnavali of Kaviraj Govind Das Sen,edited with 'Siddhiprada', ChaukhambaSurbharatiPrakashan, Varanasi, edition- 2015, pp- 938.
42. TripathiIndradeva, Chakradutta, Hindi Translation, KshudrarogaChikitsa, 55/96, ChaukhambhaSanskritaBhavan, Varanasi, reprint2014, pp-320.
43. Sharma Pawan, A Comparative Study OfKeshyakalpayoga&Sarvangasan In The Management of Alopecia, International Research Journal, July 2010, Vol I, Issue 10.
44. ShastriAmbikadutta, Hindi commentary on SushrutaSamhitha Part 1, Nidanasthana, Chaukambasurbharatiprakashan,Varanasi reprint 2017, verse- 13/36, pp- 369.
45. AtridevGuptKaviraj, Vidyotini Hindi commentary on Astangahridya of Vagbhata, Uttara Sthana, chaukhambapublishan, Varanasi, reprint edition 2007, verse-23/29, pp- 535.
46. ShastriKasinath, Vidyotini Hindi commentary on Charaka Samhita Part 2, ChikitsaSthana, Chaukhamba Sanskrit Sansthana ,Varanasi, edition 8, 2008, verse- 26/262, pp- 676
47. Murthy K.R. Srikanta, Hindi commentary on Astangahridya of Vagbhata, Krishnadas Academy, Varanasi, Edition 3rd, 2000 AD,pp-586.
48. Bhagwan Dash R.K. Sharma, Charak Samhita (text with English translation & critical exposition based on Cakrapanidatta's Ayurveda Dipika). Chaukhamba Sanskrit Series office Varanasi, edition- 2014, pp- 541-543.
49. Mishra Siddhi Nandan, Hindi commentary on BhaisajyaRatnavali of Kaviraj Govind Das Sen edited with 'Siddhiprada' ChaukhambaSurbharatiPrakashan Varanasi, edition-2015, pp- 939-940/937.
50. MisraBrahmasankara. Vidyotini Hindi commentary on Bhav Prakash of Sri Bhamisravol 2; Chaukhamba Sanskrit Bhawan, Varanasi ,edition 2015, pp- 587.
51. McDonough PH, Schwartz RA. Premature hair greying. Newark (USA). Dermatology and Pediatrics, New Jersey Medical School; 2012 April, Pp- 161-5.
52. Braun Falco's Dermatology. BirgdorfPlewig Wolff Landthaler editors. 3rd edition. Springer;2010.vol 2,pp- 1712.
53. ShastriHarisadasiva,AshtangaHridayam by Vagbhata. 9th ed.,ChoukambhaSamskrutaSamsthan, Varanasi 2012, pp-59.
54. Classical uses of medicinal plants by P.V.Sharma (chowkambhavishwabharati),pp-127.
55. Elewski BE. Clinical diagnosis of common scalp disorders, J Invest Dermatol Symp Proc. 2005, 10:190-3.
56. Gupta AK, Batra R, Bluhm R, Boekhout T, Dawson TL., Jr Skin diseases associated with Malassezia species. J Am Acad Dermatol. 2004,51:785-98.
57. Piérard-Franchimont C, Xhaufilaire-Uhoda E, Piérard GE. Revisiting dandruff. Int J Cosmet Sci.2006; 28:311- 8.
58. Piérard-Franchimont C, Piérard GE, Kligman A. Seasonal modulation of the sebum excretion. Dermatologica. 1990, 181:21-2.

59. Piérard-Franchimont C, Xhauflaire-Uhoda E, Piérard GE. Revisiting dandruff. *Int J Cosmet Sci.* 2006, 28:311–8.
60. Giacomoni P. U., Mammone T. & Teri M. Gender-linked differences in human skin. *J Dermatol Sci* 55, 144–149 (2009).
61. Sushruta Samhita, commentary by Acharya Dalhana and Shri Gayadasa, Hindi translation by Keval Krishna Thakral. *Nidanasthan 13/35*. Revised Edition 2016, ChaukhambhaOrientalia, Varanasi p85
62. Astangasangraha of vagbhata English translation by K.R.Srikanthmurthy vol-2.uttarasthan 27/17, Ninth edition 2005, ChaukhambhaOrientalia, Varanasi, pp-288
63. Shaikh S.M et al., A Review on: Physicochemical evaluation of ayurvedic mineral drug Tankan Bhasma, ISSN, Vol. 4, 2016, pp- 23-27.
64. Sharma P.V., English translation of text and Dalhana's commentary along with critical notes on Sushrut Samhita vol 2, ChaukhambaVisvabharatiprakashan, Varanasi, , edition 2013, pp- 463-464.
65. Tan E, Tay YK, Goh CL, Chin Giam Y. The pattern of alopecia areata in Singapore - A study of 219 Asians. *Int J Dermatol.* 2002;41:748-53.
66. Al-Mutairi N, Eldin ON. Clinical profile and impact on quality of life: Seven years experience with patients of alopecia areata. *Indian J DermatolVenereolLeprol.* 2011;77:489-93
67. Acharya YadavajiTrikamj., CharakaSamhitaChikitsaSthana26/132, Chaukhambha Orientalia Varanasi Reprint edition, 2004, pp- 13.
68. Dr.Gogate RB; Vidhhaaniagnikarmachikitsa, pune, 1st edition 2006, Vaidyamitraprakashana, Chapter 3, pp- 25.
69. Sushruta, Sushruta Samhita, Ayurveda-tattwa-sandipika commented by AmbikaduttaShastri, Chikitsasthan2/24-25Chaukhmba Sanskrit sansthan, Varanasi.
70. Sushruta, Sushruta Samhita, Ayurveda-tattwa-sandipika commented by AmbikaduttaShastri, Nidansthan 13:32,33. Chaukhmba Sanskrit sansthan, Varanasi.pp- 284.
71. Sushruta, Sushruta Samhita, KavirajkunjalalBhishagrata, Nidansthan13/33, Chaukhamba Sanskrit Series office, Varanasi-221001 1999, pp- 89.