Ayurvedic Drugs in the Management of Hirsutism (Avanchita Roma) – A Review

Review Article

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Abstract

Beauty enhances the self confidence of an individual. Hirsutism is a condition of abnormal growth of hair on any part of the body irrespective of gender. The rejection due to the stigma in the society causes psychology distress in an individual especially women. Around 5 to 10% of women are more prone to such social difficulties. The reason for Hirsutism might be Genetic or unhealthy lifestyle which triggers the pathogenesis. It can be a condition of unknown origin or a secondary one to an underlying illness. Now a day’s many depilation techniques are available like plucking,threading, shaving, waxing, electrolysis, laser therapy etc. These hair removal procedures cause complications like skin lesions, minor burns, scarring, inflammation, etc. Some methods are highly expensive for a common man to afford. Keeping this in view a critical compilation has been carried out to trace out the ancient depilation formulations mentioned in the Ayurvedic classics with special reference to Bruhatreyi (3 major texts in Ayurveda) & Laghutrayi (3 minor texts in Ayurveda) for the benefit of ailing individuals. Study revealed drugs used are of Oudhida (Plant), Pardhiva (Animal) and Jangama (Animal) origin. Classical formulations are easily prepared, economical and effective in treating Hirsutism.

Key Words: Hirsutism, Depilation, Avanchita roma, Atiloma, Lomasatana.

Introduction

Hirsutism in general is defined as excessive body hair in men and women on parts of the body where hair is normally absent or minimal (1). Hirsutism is a more serious problem in female individuals which affects around 5-10% of women. Presence of terminal coarse hairs in females in a male-like distribution cause psychological distress and social difficulty (2). Hirsutism is attributed either to increased production or increased sensitivity of the hair follicles to circulating androgen. In majority of patient’s hirsutism should be considered as a sign of conditions like endocrinopathies and neoplasms. The exception is idiopathic hirsutism (IH), also called simple or peripheral hirsutism. The causes of hirsutism may be divided into androgenic factors, non-androgenic factors, and idiopathic hirsutism. Androgenic causes account for major share of patients including polycystic ovary syndrome (PCOS), which affects about 70-80% of hirsute women. Adrenal hyperplasia, thyroid dysfunction, Cushing syndrome, and androgen-secreting tumours, syndromes of severe insulin resistance, etc are the other causative factors. Non-androgenic causes of hirsutism are relatively rare e.g. excess hair growth of acromegals. In addition, hirsutism may develop with chronic skin irritation because hair is designed to protect the skin.

Non-androgenic anabolic drugs will cause a generalized growth of many tissues, particularly hair. The diagnosis of idiopathic hirsutism is established by clinical exclusion in a patient who is obviously hirsute but in whom the circulating androgens either of the two sexes (male/ female) and ovulatory function in female subjects appear to be normal.

In Ayurveda Loma (hair) is a parthiva dravya (earth element) considered to be developed from Pitruja Bhava (inherited form father) during antenatal period (3). According to Vagbhata of the text Ashtanga Sangraha ‘Loma (hair)’ develops during 6th month of intrauterine life (4). According to the text Charaka samhita, Loma is considered as Asthi dhatu Mala (excreta of bone tissue) and is rooted in the 6th layer of the skin (5). Lomasatana (depilation) medications in classical texts chiefly comprise of topical applications.

Aims and Objectives

To Compile the Lomasatana (depilation) formulations cited in Bruhatreyi (3 major texts in Ayurveda) & Laghutrayi (3 minor texts in Ayurveda).

To discuss the rationale behind the effect of the drugs used in the formulations of Lomasatana (depilation).

Materials and Methods

Bruhatreyi (three major texts), Laghutrayi (three minor texts) and Nighantu (lexicon) in Ayurvedic classics viz- Charaka Samhita, Susruta Samhita, Sarangadhara Samhita, Bhavaprakasha Nighantu, Kaiyadeva Nighantu, etc. were taken from our institute library and thoroughly studied along with contemporary research on the compiled drugs with respect to
Lomasatana (depilation) to fulfil the objectives of the study.

Observations

Clinical assessment

The physical examination should be used to establish the type, pattern, and extent of the excessive hair growth. Ferriman and Galloway devised a score for clinical quantification of hirsutism (6). However, it was a subjective scale and hence not universally adopted. A modified Ferriman-Galloway score shown in ‘Figure:1’ is a qualitative tool for evaluating and quantifying hair growth in nine androgen-dependent areas in women. This scoring system evaluates nine different body parts viz- upper lip, chin, chest, upper back, lower back, upper abdomen, lower abdomen, arm, and thigh. The scores range from zero (no excessive terminal hair growth visible) to four (extensive hair growth visible) for each body part evaluated. A maximum score of 36 is possible, but a score of ≥ 8 typically indicates hirsutism. According to Ayurveda Ati loma (too hairy) and Aloma (hairless) individuals are considered as Nindita (undesirable). Ati loma is a more elaborate word used in Ayurveda which includes both male and female having excess or unwanted hair growth on any part of the body (7).

Investigations

Initial laboratory tests include testosterone (on days four to ten of the menstrual cycle), DHEAS (Dehydroepiandrosterone sulfate), LH/FSH ratio, 17 Hydroxy progesterone, etc. A serum testosterone level > 200 ng/dL is highly suggestive of an adrenal or ovarian tumour. If serum testosterone is elevated despite a normal DHEAS level, an ovarian source is more likely. If a DHEAS level > 700 μg/dL is present despite a normal LH/FSH ratio, 17 Hydroxy progesterone test should be performed to exclude Cushing syndrome. In women with absent or irregular menstruation, pregnancy should be ruled out before initiating any treatment (9). Pelvic ultrasonography (USG) can be done to detect an ovarian neoplasm or a polycystic ovary. Magnetic resonance imaging (MRI) or computed tomography (CT) of the adrenal region is useful for diagnosis.

Treatment

Management includes Non-pharmacological physical methods of temporarily removing hair by shaving, plucking, waxing, bleaching, or permanent hair reduction by electrolysis and photoepilation, etc. Pharmacological treatment comprise of Oral contraceptives (10), Androgen receptor blockade (11), Gonadotrophin-releasing hormone agonists ( GnRH agonists) (12), Insulin sensitizing drugs (13), and biological modifiers of hair follicular growth like Eflornithine hydrochloride (14).

Ayurvedic, a holistic medicine embraces a collaborative approach of Aushadha (medicament), Ahara (food) and vihara (lifestyle). Here we are presenting the Medicinal management of Hirsutism. Classical texts comprise mostly of Bahirparimarjana (topical application) techniques for temporary and permanent hair removal called Lomasatana (depilation). The ingredients in the formulations are of Oudhbida (Plant), Pardhiva (Mineral) and Jangama (Animal) origin. Herbal drugs useful in depilation are shown in Table No:1, Mineral drugs are shown in Table No:2 and Animal drugs are shown in Table No:3 respectively.

### Table No:1 Herbs cited in Bruhatreysi & Laghutrayi Texts used for Lomasatana

| S.No. | Sanskrit name | Part Used | Scientific Name                  | Family       |
|-------|---------------|-----------|----------------------------------|--------------|
| 1.    | Sami          | Fruit & Seeds | Prosopis cineraria (L.) Druce   | Fabaceae     |
| 2.    | Bhallataka    | Oil       | Semecarpus anacardium L.f.       | Anacardiaceae|
| 3.    | Rambha        | Pseudo-stem | Musa paradisiaca L.              | Musaceae     |
| 4.    | Ingudi        | Seeds     | Balanites aegyptiaca (L.) DELILE | Balanitaceae |
| 5.    | Palasa        | Leaves    | Butea monosperma (Lam.) Taub.    | Fabaceae     |
| 6.    | Arka          | Leaves    | Calotropis gigantea (L.) R.BR.   | Apocynaceae  |
| 7.    | Syonaka       | Root bark | Oroxylum indicum (L.) VENT.       | Bignoniaceae |

### Table No:2 Minerals cited in Bruhatreysi & Laghutrayi Texts used for Lomasatana

| S.No. | Sanskrit name | Used as         | Scientific Name | Common Name         |
|-------|---------------|-----------------|-----------------|---------------------|
| 1.    | Haritata      | Powder/Bhasma   | Arsenic trisulfide | Yellow orpiment   |
| 2.    | Manahshila    | Powder/Bhasma   | Arsenic disulfide | Realgar             |
| 3.    | Saindhava lavana | Powder      | Halite          | Rock salt          |

### Table No:3 Animal origin’s cited in Bruhatreysi & Laghutrayi Texts used for Lomasatana

| S.No. | Sanskrit name | Part used         | Scientific Name               | Family          |
|-------|---------------|-------------------|-------------------------------|-----------------|
| 1.    | Sankha        | Incinerated Shell | Turbinella pyrum             | Turbinellidae   |
| 2.    | Gruha Godhika | Tail of Lizard   | Hemidactylus frenatus        | Gekkonidae      |
The text Charaka Samhita in the description of Phala varga quoted about the fruit of Sami (Prospopis cineraria (L.) Druce) of having the property Keshaghna (hair depletion) (15) & in the text Susrura samhita the word Kesanasena (destroys hair) is used (16). The seeds of the same herb (Sami) were mentioned in the text Susrura samhita as one of the ingredient used for Romsatana (hair depilator). It includes Bhasma of Kadali (Muspara paradisiaca), Syonaka (Oroxylum indicum (L) VENT.), Haratala (orpiment), Saindhava lavana (rock salt) and seeds of Sami (Prospopis cineraria (L.) Druce) pounded with cold water and applied as paste at the desired area for a good depilatory action (17). Another formulation for external application includes a paste prepared by pounding two parts of Sankha Bhasma (calcium carbonate) and one part Haritala (Yellow Orpiment) processed with Sukta (vinegar) acts as hair depilator (18). Likewise an external application of the concoction of Bhallataka Taila (oil of Semecarpus anacardium L.F.) and Snuhi Ksheera (latex of Euphorbia nerifolia L.) is useful for the management of hair removal (19). The forth external medicament mentioned in the text Susruta samhita is a combination of Bhallataka taila (oil of Semecarpus anacardium L.F.) with the ashes prepared from Gruha Godhika Puccha (Tail of house lizard), Rambha (Muspara paradisiaca L.), Haritala (orpiment) and seeds of Ingudi (Balanties aegyptiaca L.) DELILE). This mixture is brewed with water under the sun and applied over the skin for the purpose of hair removal (20).

The text Sarangadhara mentioned two formulations claiming to be useful in hair removal within seven topical applications. The first one is a combination of 2 parts of Sankha (calcium carbonate), 1 part of Haritala (Yellow Orpiment), half part Manakshila (realgar) and 1 part Sarjika kshara (an alkali) made into paste with water and applied externally which makes the part resembles the head of a monk (21). Second depilation paste for topical use is prepared with 2 parts of Haritala (yellow orpiment), 6 parts of Sankha Bhasma (calcium carbonate), 2 parts of Palasa Kshara (alkali made of Butea monosperma (Lam.) Taub.) blended with the fresh pseudo-stem juice of Rambha (Muspara paradisiaca L.) and leaves of Arka (Calotropis gigantea (L.) R.BR.) (22).

**Discussion**

In Ayurveda treatment of Hirsutism is mostly by topical medicaments. The topical pastes enter the Lomakupa (opening of hair follicle) and vandalize the follicles to causes temporary or permanent depilation. Classical texts quoted certain substances which by internal use cause hair loss. Dalhana while commenting on the text Susruta samhita said that the reddish fruit (ripe fruit) of Sami (Prospopis cineraria (L.) Druce) can either be used as a topical medicament or taken internally for the purpose of kesaghna (depilation). Most of the Herbal ingredients used in Lomatana (depilation) formulations have Pitta (increases Pitta bodily humour) or Kshara (alkali) property.

**Sami (Prospopis cineraria (L.) Druce)** fruit is an Ushna virya (hot potency) substance having Ruksha (dryness) and Pitta (increases Pitta bodily humour) property (23). Bhallataka (Semecarpus anacardium L.F.) pericarp contains an alkali called Bilhawalan (24), a highly toxic golden yellow corrosive resinous liquid which causes Vrana (lesion) and sphota (blisters) (25). It is also an Ushna virya (hot potency) substance having Chedana (excision), Bhedana (incision) and Pitta (increases Pitta bodily humour) property (26). Haritala (Orpiment) and Manahshila (Realgar) are the sulphides of Arsenic are Ushna virya (hot potency) drugs having Pitta (increases Pitta bodily humour) property. These ingredients when used may vitiate the Bhrajaka Pitta (Pitta bodily humour related to skin) and weaken the hair roots to cause hair loss.

A famous verse from the text Charaka samhita says an excessive use of Lavana (salt) and Kshara (alkali) causes loss of hair (27). Kshara (alkali) is having Katu (pungent) and Lavana Rasa (Salty taste). Alkalis have corrosive or caustic (Ksharana or kshanana) nature which on contact disintegrates or destroys the tissues elements. The text Susrura samhita mentioned Tikshna (sharp), Chedana (excision), Bhedana (incision), Lekhana (scarifying), Dahana (burning) and Darana (tearing) qualities which may assist in depilation (28). Lavana (Salt) is presented with the properties of Tikshna (sharp), Vikasi (breaks the bonding between various dhatus), Chedana (excision), Bhedana (incision) and Kushnati Mamsani (deletion of muscle tissue) which are useful in depilation.

Kadali Kshara (alkali of Musa paradisiaca L.) has a pH of approx. 10.7 which tends to be a strong alkali in nature (29). Ingudi Kshara (alkali of Balanties aegyptiaca (L.) DELILE) prepared from their seeds may have moderate alkaline property. Palasa Kshara (alkali of Butea monosperma (Lam.) Taub.) has a pH of approx. 9.7 which is a strong alkali. (30). Arka Kshara (alkali of Calotropis gigantea (L.) R.BR.) prepared from their leaves has a pH of approx. 13.74 which is also a strong alkali (31). Shankha bhasma pH value is approx. 9.3 which incur its strong alkali nature (32).

Mode of action regarding the tail of Gruha Godhika is uncertain, while Syonaka (Oroxylum indicum (L) VENT.) owning to its Tikta (bitter), Kashaya (astringent) Rasa (taste) causes vitiation of Vata dosha (Vata bodily humour) to produce Rukshata (dryness), Kharata (roughness) which might serve the purpose of depilation. Ayurvedic classical topical formulations are useful in emergency cases for instant depilation irrespective of the underlying cause. Thorough examination can lead to different therapies related to the exact origin of the condition.

**Conclusion**

Extensive research work has to be carried out to understand the effectiveness of Lomasaatan action of different topical formulations mentioned in Ayurvedic classics with respect to its SOP (Standard operating procedure). Standardization of formula, Toxicity and efficacy studies, so as to provide a safe and cost effective solution for Hirsutism.
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