



Herbal Treatment For Hair Regrowth: A Closer Look At Garlic And Many More

¹ Aanchal Choudhary, ² Yash Tyagi, ³ Harsh Krishna, ^{1*} Surbhi Kambhoj, ^{2*}Dr. K. Nagrajan

1, KIET School of Pharmacy, KIET Group of Institutions, Delhi-NCR, Uttar Pradesh, India 201206

2, KIET School of Pharmacy, KIET Group of Institutions, Delhi-NCR, Uttar Pradesh, India 201206

3, KIET School of Pharmacy, KIET Group of Institutions, Delhi-NCR, Uttar Pradesh, India 201206

^{1*}, Department of Pharmacology, KIET School of Pharmacy, KIET Group of Institutions, Delhi-NCR, Uttar Pradesh, India 201206

^{2*}Department of Medicinal Chemistry, KIET School of Pharmacy, KIET Group of Institutions, Delhi-NCR, Uttar Pradesh, India 201206

ABSTRACT

The widespread disorder known as alopecia, which is defined by hair loss on the scalp or other parts of the body, affects people's psychological health and sense of self. Alternative, natural remedies are becoming more popular as alopecia is treated with traditional methods like minoxidil and corticosteroids, which are not always successful and frequently have negative effects. A medicinal plant with antibacterial, anti-inflammatory, and antioxidant qualities, garlic (*Allium sativum*) has gained attention as a possible alopecia cure. Due to its ability to improve blood flow to the scalp, distribute vital nutrients, and stimulate hair follicle regeneration, garlic's bioactive chemicals—especially sulphur compounds like allicin—may help keep hair healthy.

This review examines various herbal treatments, including well-known herbs like *Rosmarinus officinalis* (rosemary), *Aloe vera*, *Camellia sinensis* (green tea), and *Panax ginseng*, *Allium sativum* (garlic). Some marketed formulations are nutrich from ayulabs, regrow from avolado, siddha shampoo from Surya labs. Numerous studies have demonstrated that garlic gel, either by itself or in conjunction with traditional therapies. Because of its antibacterial qualities, garlic may help prevent scalp infections linked to hair loss, and its anti-inflammatory effects may help lessen autoimmune responses in alopecia areata. Garlic also protects against oxidative stress, which is known to cause damage to hair follicles thanks to its antioxidant properties.

Garlic gel therapy for alopecia shows promise, but further clinical study is needed to identify the best formulations, administration techniques, and any adverse effects. Garlic gel is a safe and effective natural alternative or supplementary therapy for controlling alopecia, according to preliminary research; nonetheless, customized techniques are advised. Garlic gel may play a significant role in

herbal treatment for alopecia with more research, providing patients with a convenient and all-natural means of hair restoration.

In conclusion, herbal treatments hold promises as a natural, accessible option in the management of alopecia. With further research, they may become integral components in hair loss therapies, providing holistic and well-tolerated alternatives or complements to conventional treatments.

KEYWORDS – Alopecia, Garlic, Hair Growth, Herbal Treatment

INTRODUCTION:

The work of hair in human life is vital¹. The old strategy utilized in India includes making hair oils and blending them with diverse medicines that empower hair development.

Given the notoriety Indian ladies have for having long, gleaming, and sound hair, it isn't startling that hair care may be a major portion of their self-care schedules.

Like sweat organs, sebaceous organs, and nails, it is considered an embellishment structure of the skin and acts as a defensive member. They are too alluded to as epidermal subordinates since they start from the epidermis amid embryonic development².

To protect sound hair and halt hair misfortune, oiling the scalp and hair is suggested by the Charaka Samhitha, the definitive content on Ayurvedic medication.

It was exhorted to oil your hair each day utilizing the proper herbs that would fit other fixings, and this hone has held on to this day³.

The hair oil arrangements are utilized to remedy part closes, dandruff, and other issues.

The major reason of the hair oil arrangements is to alleviate the scalp so that both men and ladies can develop wonderful hair. Different sorts of oils, such as castor, almond, coconut, and onion oils, are managed topically to the scalp in combination with fitting home grown solutions.

Coconut oil is the foremost meriting oil establishment of them all since it penetrates into hair strands more productively and affordably than other oils. For the finest hair advancement, coconut oil mixed with home grown drugs is the prescribed way⁴.

All hair develops in three patterned stages:

1) **Anagen** (Development Stage) – The anagen can be brief, from 2 to 8 times. Around 80 of hair is regularly within the anagen stage.

2) **Catagen** (Retregression) – Amid the retreat stage, development effort increments and the hair moves to the coming arrange. The retrogression period keeps going 10- 14 days.

3) **Telogen** – Telogen is the state in which the hair enters a resting state. This stage keeps going 90- 100 days. by and large 50 to 100 subjective hairs drop out each day. An increment of 100 or advance hairs per 6 constituents Hair misfortune or alopecia condition, which may be temporary².

Ponders have illustrated that whereas the rate of anagen and catagen follicles diminishes with hair misfortune, the rate of telogen follicles increments.

This ratio is altered by a number of hair disorders, and dystrophic hair may appear in the trichogram. About 100–150 hairs are lost daily by a healthy person. Increased hair loss can be caused by severe and protracted infections, extreme mental stress, dieting, malnourishment, medicine side effects (antidepressants, cytostatics, anticoagulants, etc.), and mechanical and chemical stress on the hair follicles. A number of internal reasons can also contribute to hair loss, including thyroid disorders, inflammation of the body, menopausal hormone changes, and abnormalities in the immune system's

functioning. The main causes of permanent hair loss are usually different skin conditions and the follicles' permanent incapacity to return to the development phase. The main causes of baldness include genetic susceptibility, loss of the follicular bulb's extracellular matrix, localized microinflammation, and hormonal imbalance⁵.

Male hair misfortune design

The therapeutic word for hair misfortune coming about in diminishing hair is alopecia. The clutter known as "male design hairlessness" is the result of both androgen and legacy. When a area of the scalp is uncovered due to androgenetic alopecia, it is alluded to as alopecia. Male alopecia is characterized by hair misfortune on the front and crown of the head as well as diminishing hairline. Androgenic alopecia could be a innate condition caused by a hereditary inclination to the impacts of dihydrotestosterone (DHT) in specific scalp districts. This leads to the dynamic shrinkage of the hair follicles, which at long last comes about in less and more slender hairs. DHT blend is directed by an chemical known as 5-reductase. Hair misfortune has variable designs, power, onsets, and movements inside families, which can be ascribed to the association of numerous qualities. Both guardians pass on qualities connected to helplessness. This time, hereditary genetic Hereditary Synonymstests. It is wrong to expect baldness.

Female hair misfortune design

The foremost common sort of hair misfortune in ladies is called alopecia, or female design hairlessness. Generally, the parietal and transient districts are influenced by hair misfortune. It influences around one-third of all delicate ladies, and most defenseless ladies are influenced after menopause; in any case, it can too start in childhood. An normal individual losing hair loses between 100 and 125 hairs a day. Fortunately, these hairs are replaceable. You're encountering honest to goodness hair misfortune when the hair stops coming back or on the off chance that you lose more than 125 hairs a day. Any parent within the family may be the genetic carrier of alopecia.

Alopecia areata

An immune system inveterate ailment of the hair follicles called alopecia areata (AA) causes nonscarring patches of hair misfortune, which is the total misfortune of hair on the scalp, and alopecia universalis, which influences the complete body, are extreme shapes of AA. This sickness habitually has an unfavorable impact on an individual's enthusiastic and mental wellbeing, which can have a considerable impact on their quality of life⁶.

It's an autoimmune illness that can last a long time and has a fluctuating, usually relapsing or intermittent course. The most common nonscarring alopecias are male and female pattern alopecia, followed by alopecia areata⁷.

TYPES OF ALOPECIA AREATA:

- Alopecia areata (essential organize): This immune system ailment is commonly happening and causes hair misfortune on the scalp and other regions. As a rule, it starts with one or more little, smooth, adjusted spots that do not scar.
- Alopecia totalis: total scalp hair misfortune.
- Alopecia universalis: entire body hair misfortune, including eyelashes and eyebrows.
- Chemotherapy and hair misfortune: In spite of the fact that it could be a treatment fair for cancer patients, chemotherapy too influences solid cells and hair follicles⁸.
- Diffusive alopecia: Not fundamental; total hair misfortune over the scalp without any modern development. Hair misfortune as a result of unfavorable responses to restorative medicines, Colors, colors, rectifying, softening, bouncing back, perming, and other excellence medications
- Footing alopecia: Tight haircuts can lead to footing at the hair roots and the advancement of grip alopecia.
- □ Brief alopecia areata: Individuals with advanced-stage alopecia areata, a few of whom advance to totalis/universalis alopecia⁹.

Causes of hair loss

The following factors are usually associated with hair loss:

1. Family history (heredity):

The most common cause of hair loss is a genetic condition that worsens with age.

2. Hormonal Changes and Medical Conditions:

Many conditions can cause hair loss, either permanent or temporary, including hormonal changes brought on by pregnancy, childbirth, menopause, and thyroid problems.

3. Medications and supplements:

Hair loss is an unfavourable side effect of several medications, including those for gout, cancer, arthritis, depression, heart problems, and elevated blood pressure.

4. Radiation therapy to the head:

It is a very distressing phenomenon that many people see losing hair months after suffering a physical or psychological shock. This sort causes temporary hair loss.

5. Hairstyles and treatment:

Overstyling and pulling hairstyles like braids can cause traction alopecia, a kind of hair loss. Hot oil treatments and curling can also cause hair loss. In the event that scarring forms, hair loss might not grow back².

Herbs used in treatment of alopecia⁸

| S. No. | Plant | Family | Common name |
|--------|----------------------------------|------------------|-------------------------------|
| 1. | <i>Acacia concinna</i> | Mimosaceae | Shikakai |
| 2. | <i>Achillea millefolium</i> | Asteraceae | Yarrow |
| 3. | <i>Achyranthes aspera</i> | Amaranthaceae | Apamarg |
| 4. | <i>Adiantum capillus</i> | Adiantaceae | Hair fern |
| 5. | <i>Albizia amara</i> | Fabaceae | Silk plant |
| 6. | <i>Allium cepa</i> | Liliaceae | Onion |
| 7. | <i>Aloe vera</i> | Liliaceae | Medicinal aloe |
| 8. | <i>Amaranthus spinosus L.</i> | Amaranthaceae | Bathua |
| 9. | <i>Angelica acutiloba</i> | Umbelliferae | Dong guai or Chinese Angelica |
| 10. | <i>Arctium lappa</i> | Asteraceae | Burdock |
| 11. | <i>AristolochiabRACTeol</i> | Aristolochiaceae | Birthworts |
| 12. | <i>Arnica montana</i> | Asteraceae | Arnica |
| 13. | <i>Artemisia abrotanum</i> | Asteraceae | Southernwood |
| 14. | <i>Avena sativa</i> | Poaceae | Wild oats |
| 15. | <i>Azadirachta indica</i> | Meliaceae | Neem |
| 16. | <i>Bacopa monnieri</i> | Scrophulariaceae | Brahmi |
| 17. | <i>Brassica spp.</i> | Brassicaceae | Mustard |
| 18. | <i>Berberis vulgaris</i> | Berberidaceae | Barberry |
| 19. | <i>Betula pendula</i> | Betulaceae | Birch |
| 20. | <i>Buxus wallichiana</i> | Buxaceae | papri |
| 21. | <i>Cajanus cajan</i> | Fabaceae | Pigeon pea |
| 22. | <i>Calendula officinalis</i> | Asteraceae | Potmarigold |
| 23. | <i>Capsicum annum</i> | Solanaceae | Pepper |
| 24. | <i>Cardiospermum halicacabum</i> | Sapindaceae | Ballon plant |

| | | | |
|-----|-------------------------------------|----------------|-------------------|
| 25. | <i>Cassia alata</i> | Fabaceae | Dadmari |
| 26. | <i>Cuscuttareflexa</i> | Convolvulaceae | Amar bail |
| 27. | <i>Cedrus atlantica</i> | Pinaceae | Cedar wood |
| 28. | <i>Centella asiatica</i> | Umbelliferae | Gotu kola |
| 29. | <i>Chelidonium majus</i> | Papaveraceae | Celandine |
| 30. | <i>Cinnamomum camphora</i> | Lauraceae | Camphor |
| 31. | <i>Cinnamomum zeylanicum</i> | Lauraceae | Cinnamon |
| 32. | <i>Citrus aurantifolia</i> | Rutaceae | Key lime |
| 33. | <i>Citrus limon</i> | Rutaceae | Lemon |
| 34. | <i>Coccus nucifera</i> | Arecaceae | Nariyal |
| 35. | <i>Cyclea peltata</i> | Menispermaceae | Raj patha |
| 36. | <i>Cyperus rotundus</i> | Cyperaceae | Nagarmotha |
| 37. | <i>Datura innoxia</i> | Solanaceae | Datura |
| 38. | <i>Daucus carota</i> L. | Apiaceae | Carot |
| 39. | <i>Eclipta prostrata</i> | Asteraceae | False daisy |
| 40. | <i>Emblica officinalis</i> | Euphorbiaceae | Amla |
| 41. | <i>Eucalyptus</i> sp. | Myrtaceae | Eucalyptus |
| 42. | <i>Ficus racemosa</i> | Moraceae | Bargad |
| 43. | <i>Gardenia gummifera</i> | Rubiaceae | Gummy gardenia |
| 44. | <i>Gmelina asiatica</i> | Verbenaceae | Asian bushbeech |
| 45. | <i>Geranium sibiricum</i> | Geraniaceae | Siberian geranium |
| 46. | <i>Glycine max</i> | Fabaceae | Soybean |
| 47. | <i>Glycyrrhiza glabra</i> | Fabaceae | Liquorice |
| 48. | <i>Hamamelis virginiana</i> | Hamamelidaceae | Witch haze |
| 49. | <i>Hibiscus rosa sinensis</i> | Malvaceae | China rose |
| 50. | <i>Hibiscus rosa sinensis</i> Linn. | Malvaceae | Gudhal |
| 51. | <i>Hydrocotyle asiatica</i> | Apiaceae | Gotu cola plant |
| 52. | <i>Juglans nigra</i> | Juglandaceae | Black walnut |
| 53. | <i>Juglans regia</i> | Juglandaceae | Walnut |
| 54. | <i>Juglans regia</i> L. | Juglandaceae | Akhrot |
| 55. | <i>Juniperus communis</i> | Cupressaceae | Juniper berry |
| 56. | <i>Lactuca sativa</i> L. | Asteraceae | Lettuce |
| 57. | <i>Larrea divaricata</i> | Zygophyllaceae | Creosote bush |
| 58. | <i>Lavandula angustifolia</i> | Lamiaceae | Lavender |
| 59. | <i>Lawsonia inermis</i> | Lythraceae | Henna |
| 60. | <i>Medicago sativa</i> | Fabaceae | Alfalfa |
| 61. | <i>Melaleuca alternifolia</i> | Myrtaceae | Tea tree |
| 62. | <i>Melissa officinalis</i> | Lamiaceae | Lemon balm |
| 63. | <i>Mentha piperita</i> | Lamiaceae | Pipermint |
| 64. | <i>Mussaenda frondosa</i> | Rubiaceae | Bebina |
| 65. | <i>Nardostachys jatamansi</i> | Valerianaceae | Jatamansi |
| 66. | <i>Nigella sativa</i> | Ranunculaceae | Black cumin |
| 67. | <i>Nyctanthes arbor-tristis</i> | Oleaceae | Harsinghar |
| 68. | <i>Ocimum sanctum</i> | Lamiaceae | Tulsi |
| 69. | <i>Olea europaea</i> | Oleaceae | Indian olive |
| 70. | <i>Panax ginseng</i> | Araliaceae | Ginseng |
| 71. | <i>Pelvetia canaliculata</i> | Fucaceae | Channelled wrack |
| 72. | <i>Persea americana</i> | Lauraceae | Avocado |
| 73. | <i>Phaseolus vulgaris</i> | Fabaceae | Bean flower |
| 74. | <i>Phyllanthus amarus</i> | Euphorbiaceae | Nirurai |
| 75. | <i>Pilocarpus jaborandi</i> | Rutaceae | Jaborandi |
| 76. | <i>Plantago major</i> | Plantaginaceae | Plantain |

| | | | |
|------|--------------------------------------|-----------------|---------------------|
| 77. | <i>Polygonum multiflorum</i> | Polygonaceae | Fo-Ti, He Shou Wu |
| 78. | <i>Prunus amygdalus</i> | Rosaceae | Badam |
| 79. | <i>Punica granatum</i> | Punicaceae | Pomegranate |
| 80. | <i>Pygeum africanum</i> | Rosaceae | Pygeum |
| 81. | <i>Pyrus malus</i> | Rosaceae | Apple cedar vinegar |
| 82. | <i>Quillaja saponaria</i> | Quillajaceae | Soap bark |
| 83. | <i>Ricinus communis</i> | Euphorbiaceae | Castor oil plant |
| 84. | <i>Rosemarinu sofficinalis</i> | Lamiaceae | Rosemary |
| 85. | <i>Salvia officinalis</i> | Lamiaceae | Sage |
| 86. | <i>Santalum album</i> | Santalaceae | Sandalwood |
| 87. | <i>Sapindus indica</i> | Sapindaceae | Soapnut |
| 88. | <i>Sapindus mukorossi</i> | Sapindaceae | Ritha |
| 89. | <i>Saponaria officinalis</i> | Caryophyllaceae | Soapwort |
| 90. | <i>Sesamum indicum</i> | Pedaliaceae | Sesame |
| 91. | <i>Sisymbrium irio</i> | Brassicaceae | Asolio |
| 92. | <i>Solanum chrysotrichum</i> | Solanaceae | Devil's fig |
| 93. | <i>Symphtum officinale</i> | Boraginaceae | Comfrey |
| 94. | <i>Terminalia bellerica</i> | Combretaceae | Vibhitaka |
| 95. | <i>Terminalia chebula</i> | Combretaceae | Haritaki |
| 96. | <i>Tridex procumbens</i> | Asteraceae | ghamra |
| 97. | <i>Thymus vulgaris</i> | Lamiaceae | Thyme |
| 98. | <i>Eclipta alba</i> | Asteraceae | Bhringraj |
| 99. | <i>Trigonella foneum-graecum</i> | Fabaceae | Fenugreek |
| 100. | <i>Urtica dioica</i> | Urticaceae | Stinging nettle |
| 101. | <i>Vetiveria zizanioides</i> | Poaceae | Ushir |
| 102. | <i>Vigna mungo</i> | Fabaceae | Black gram |
| 103. | <i>Wrightia tinctoria</i> | Apocynaceae | Indrajev |
| 104. | <i>Zanthoxylum rhetsa</i> (Roxb.)DC. | Rutaceae | Indian ivy rue |
| 105. | <i>Zizyphus jujube</i> | Rhamnaceae | Rhamnaceae |

❖ Caffeine

As an inhibitor of phosphodiesterase, caffeine, an alkaloid methylxanthine, invigorates the development of cells. Caffeine has been appeared in vitro tests to neutralize the inhibitory impacts of testosterone on hair development, prolong the hair shaft, expand the term of anagen, and increment the multiplication of keratinocytes within the hair framework. Also, caffeine stifles the expression of testosterone-induced changing development figure (TGF)- β 1, an inhibitor of hair advancement, and invigorates the expression of insulin-like development calculate (IGF)-1, a promoter of hair development. Caffeine affectability appears to be more noteworthy in female hair follicles.

The topical application of caffeine within the treatment of AGA has been the subject of investigate. When employing a caffeine-containing cleanser on a every day premise for six months, the number of hairs recovered amid the hair-pull test and the sum of hair shed amid combing diminished, in conjunction with the escalated and rate of hair misfortune in general.

❖ Curcumin

Since old times, curcumin, the dynamic component of turmeric, has been utilized as an anti-inflammatory. Curcumin decreases proinflammatory cytokines like tumor corruption calculate (TNF)- α and interleukin-1 by downregulating the proteins lipoxygenase, cyclooxygenase-2, and inducible nitric oxide synthase. It moreover stifles atomic factor-kB enactment.

In 87 people, a topical hexane extricate of Curcuma aeruginosa at a concentration of 5% was differentiated with a fake treatment, 5% MXD, and a blend of CA and MXD. Compared to the fake treatment, after six months, no bunch appeared a perceivable increment within the add up to region hair number. Comparatively, subjective assessment of hair regrowth/shedding only impressively progressed within the combination gather; on photographic examination, combination treatment and 5% MXD appeared critical advancement. This investigate demonstrates a synergistic affect when combined with MXD, indeed on the off chance that it does not illustrate the viability of CA extricate alone for hair development.

❖ Capsaicin

Capsaicin has anti-inflammatory, immunomodulatory, and antibacterial properties. Topical 5% garlic gel combined with betamethasone was tried against fake treatment in a trial including 40 AA patients. After 3 months, 95% of people getting treatment appeared great to direct comes about, compared to 5% of those getting a fake treatment. There were no negative results famous.

In patients with serious AA, vellus hairs started to grow on day 21 after a day by day application of 0.075% capsaicin cream to the harrowed scalp [27]. Moreover, after utilizing topical capsaicin cream with a concentration of 0.075% for three weeks, half of the patients (12 AA and 2 AT) in a brief imminent trial detailed developing hair. In fifty AA patients, topical capsaicin treatment was compared to clobetasol 0.05% treatment; vellus hair development made strides, but corrective hair regrowth was not essentially influenced [29]. Agreeing to extra ponders, topical 0.01% raspberry ketone, which offers a structure with capsaicin, additionally increments IGF-I and fortifies the development of hair in 50% of patients.

❖ Garlic gel

The Allium sort incorporates garlic (*Allium sativum*), onions, scallions, shallots, leeks, and chives. These plants abdicate organosulfur chemicals that cause alopecia; trichograms were utilized to degree the anagen and telogen hair development adequacy. Patients with diffuse alopecia appeared a significant increment in anagen hair at the occiput compared to the frontal hairline after accepting melatonin treatment.

A follow-up ponder with 15 ladies and 15 men with AGA surveyed a topical melatonin arrangement at 0.0033% in an open-label setting. The degree of alopecia seriousness was significantly reduced taking after treatment. A TrichoScan examination conducted on 35 guys with AGA utilizing the same melatonin arrangement for six months appeared a 29.2% rise in hair number in 54.8% of patients after three months and a 42.7% increment in 58.1% of patients after six months [10].

Herbal formulations to treat alopecia

- ❖ Marketed formulations for alopecia¹¹:

| Herb | Dosage form | Brand | Dose |
|--------------|---|---|---|
| Saw palmetto | 1. Extract-capsules 2. Extract-soft gel capsule 3. Extract-capsules 4. Shampoo and conditioner | 1. Dailywellness 2. The Vitamin Shoppe 3. Now 4. Artnaturals | 1. 200 mg/d 2. 320 mg/d 3. 160 mg twice daily 4. 4. 16 oz |
| Green tea | 1. Extract-capsules 2. Extract-capsule 3. Nutritional drink 4. Nutritional drink | 1. Holy natural 2. Sinew nutrition 3. Nutrova simplifying good health 4. Himalaya wellness | 1. 1000 mg twice daily 2. 700 mg/d 3. 10 mg 4. 2000 mg per sachet |
| Pumpkin seed | 1. Extract-capsule 2. Oil-Soft gel capsule | 1. Inlife group 2. Now foods | 1. 500 mg/d 2. 2000 mg twice daily |
| Rosemary | 1. Capsules 2. Oil 3. Capsules | 1. HealthVit. 2. Good vibes 3. Eclectic institute | 1. 700 mg twice daily 2. Essential oil for hair massage 3. 300-900 mg/d |
| Grape seed | 1. Nutritional drink 2. Extract-capsule | 1. Nutrova simplifying good health 2. Inlife group | 1. 10 mg 2. 400 mg |
| Licorice | 1. Chewable tablets 2. Root extract alcohol free | 1. Planetary herbal 2. Natures answer | 1. 380 mg/d 2. 2-6 mL (500-2000 mg/d) |

Another herbal marketed formulations¹²:

| Sr. No. | Product name | Manufacture | Content |
|---------|----------------|-------------|-------------------------------|
| 1. | Chirayu Herbal | Chirayu | Amla, Bhringraj, Brahmi |
| 2. | Hairich | Capro | H. roseus, E. alba, Osantum |
| 3. | Hairvit | Millennium | Brahmi, Bhringraj, L.innermis |
| 4. | Hibril | Vital Care | S.indicum, Bhringraj, Brahmi |
| 5. | K-7 Taila | Ajmera | Amla, Jatamansi |
| 6. | Kesh Rakshe | JRK | Amla, Bhringraj |
| 7. | Keshamrit | Ajmera | Amla, Bhringraj |
| 8. | Medhavi | Ajmera | Amla, Bhringraj, Brahmi |

Some more herbal formulations¹³:

| S no. | Product name | manufacture | Formulation | contemt |
|-------|-------------------------------|-------------|-------------|---------------------------|
| 1. | Hairbac | bacfo | Tablets | Amla, Bhringaraj, Guduchi |
| 2. | Nutrich | ayulabs | Capsule | Bhringraj,godanti |
| 3. | Shyamla | Vasu | Shampoo | Amla, Heena |
| 4. | Saini Herbal Hair Conditioner | saini | Conditioner | Amla, Bhringraj |
| 5. | Regrow | Avolado | Massage Oil | Chamomile, Rosemary |
| 6. | SidhaShampoo | Surya labs | Shampoo | Tulsi, Neem |

Research work done on treatment of alopecia:

| Cateogary | reference | Study design | Treatment control | Dur atio n (wee ks) | Improvement/defin ation | Conclusion |
|------------------------|-----------------------|-----------------------|--|---------------------|--|----------------------------------|
| anthralin | Sasmaz andArican [14] | RCT | Anthralin 0.5 % od vs. azelaic acid 20 % offered | 12 | effective topical therapy for patchy AA. | Similar results to azelaic acid. |
| Calcineurin inhibitors | Ucak et al[15] | RCT | Pimecrolimus 1 % offered vs. P | 12 | Lesser regrowth | Not effective |
| Garlic gel | Hajheydari et al.[16] | DB-R-PCT | Garlic gel 1 h offered? BVC cream 0.1 % offered vs. PL ? BVC cream 0.1 % offered | 12 | | Effective with BVC |
| DPCP | Shapiro et al.[17] | RCTbilater alcomparis | DPCP qw ? MXD or PL | 24 | regrowth | effective |

| | | | | | | |
|-----------------|------------------------------|-------------------------------|---|----|-------------------------------|---------------------------|
| | | on | vs. nothing | | | |
| Azelaic acid | Sasmaz and Arican[14] | RCT | Azelaic acid 20 % offered vs. anthralin 0.5 % od | 12 | Cosmetically applicable | Effective |
| DNCB | Swanson et al.[18] | DB-RCT | DNCB qw vs. croton oil sufficient to cause dermatitis | 24 | Regrowth>75% | Effective |
| Inosiplex | Georgala et al.[19] | DB-R-PCT | Inosiplex 50 mg/kg/d in 5 isolated dosage vs. PL | 12 | Regrowth>50% | Effective |
| Biologics | Price et al. [20] | DB-R-PCT | Efalizumab 1 mg/kg SC qw vs. PL | 24 | Regrowth>75 % | Not effective |
| | Strober et al.[21] | DB-R-PCT | Alefacept 15 mg IM qw vs. PL | 12 | Regrowth>50% in 12 weeks | Not effective |
| Antidepressants | Perini et al.[22] | DB-R-PCT | Imipramine 75 mg od vs. PL | 24 | Any regrowth | Effective |
| Corticosteroids | | | | | | |
| Systemic | Kar et al.[23] | R-PCT | Verbal prednisolone 200 mg qw vs. PL | 12 | Regrowth>30% -3 months | Effective |
| Topical | Charuwichitratana et al.[24] | DB-R-PCT | Desoximetasone cream 0.25 % offered vs. PL | 12 | Regrowth>75% | Effective |
| | Mancuso et al.[25] | IB-RCT bilateral comparison | BMS valerate froath offered vs. BMS dipropionate moisturizer 0.05 % offered | 12 | Regrowth>75% | Foam>lotion |
| | Tosti et al.[26] | DB-R-PCT bilateral comparison | Clobetasol propionate 0.05 % froath 5d/w vs. PL | 12 | Any regrowth | Effective |
| | Ucak et al.[27] | RCT | Clobetasol propionate 0.05 % cream offered vs. PL | 12 | Lesser regrowth | Not effective |
| | Lenane et al.[28] | DB-RCT | Clobetasol propionate 0.05 % cream offered vs. hydrocortisone 1 % cream | 24 | % Reduction in hair loss area | Clobetasol hydrocortisone |

| | | | bid | | | |
|-----------|---------------------------|---------------------|--|----|--------------------------|---------------------------|
| Minidoxil | Fenton and Wilkinson [29] | DB-R-PCT cross-over | MXD 1 % 0.5 mL or 0.5 g offered vs. PL | 12 | Any regrowth in 3 months | Effective |
| | White and Friedmann [30] | DB-R-PCT cross-over | MXD 3 % bid vs. PL | 16 | Lesser regrowth | Not effective |
| | Shi[31] | R-PCT | MXD 1 % cream od vs. PL | 24 | Cosmetically acceptable | Effective |
| | Chowdury et al.[32] | DB-R-PCT | MXD 2 % tid after 6w decreased prednisolone vs. PL after 6w decreased prednisolone | 14 | Regrowth>25% | P value is not determined |

Conclusion

Alopecia is a widespread issue that has long afflicted both men and women. Although numerous treatments, both natural and synthetic, are available, the whole nature of the problem is still unknown and being researched; still, natural medicines are becoming more and more well-liked, and plant extract is being used more often in formulations. because products with a synthetic base may pose a risk to human health and have a number of negative impacts. Home grown items are of most noteworthy ubiquity since of their lesser side impacts. The utilize of bioactive components from the home grown detailing invigorates the science of skin and hair for normal development that advances solid hair and skin. Numerous vitamins, cancer prevention agents, distinctive oils, proteins, terpenoids, and various basic oils are regularly found in home grown details. The objective of this article is to examine the benefits and employments of herbs as normal makeup for hair advancement.

REFERENCES:

1. [https://www.tsijournals.com/Int.J.Chem.Sci:10\(1\),2012,349-353.](https://www.tsijournals.com/Int.J.Chem.Sci:10(1),2012,349-353)
2. Khandagale Sandip Suresh et. Al. “A Review of Herbal Medications for the Treatment of Alopecia”. International Journal of Ayurveda and Pharma Research. IJAPR | September 2023 | Vol 11 | Suppl 4;[<https://doi.org/10.47070/ijapr.v11iSuppl4.2974>].
3. IJRAR, E ISSN 2348-1269, PRINT ISSN 2349-5138
4. <http://jddtonline.info>, Diary of Medication Conveyance and Therapeutics.2019;9(1):68- 73From google.
5. Ana Zgonc Škulj et.Al. “Herbal preparations for the treatment of hair loss”Archives of Dermatological Research. Volume 312, pages 395–406, (2020); [<https://doi.org/10.1007/s00403-019-02003-x>].
6. Austin Hwang, BSet.Al. “complementary and Alternative Therapies for Alopecia Areata”Journal of Integrative Dermatology. 2022
7. Pratt, C., King, L., Messenger, A. et al. Alopecia areata. *Nat Rev Dis Primers* **3**, 17011 (2017). <https://doi.org/10.1038/nrdp.2017.11>.
8. Jain pushpendrakumaret.Al. “the wonder of herbs to treat – alopecia” innovare journal of medical sciences. Vol 4, Issue 5, (2016).

9. PundkarAshwini S.et.Al “A REVIEW: HERBAL THERAPY USED IN HAIR LOSS”Pharmaceutical Resonance (2020) Vol. 3 - Issue 1.

10. HoskingAnna-Marie et.al. “Complementary and Alternative Treatments for Alopecia: A Comprehensive Review”. Skin Appendage Disorders 2019;5:72–89; [DOI: 10.1159/000492035].

11. DhariwalaMaria Yusuf et.al. “An overview of herbal alternatives in androgenetic alopecia”. Journal of Cosmetic Dermatology. J Cosmet Dermatol. 2019;1–10; [DOI: 10.1111/jocd.12930].

12. SarafSwarnlata et.al. “HERBAL HAIR COSMETICS: ADVANCEMENTS AND RECENT FINDINGS”. World Journal of Pharmaceutical Research. Volume 3, Issue 2, 3278-3294.

13. RathiVaishali et.al. “Plants used for hair growth promotion: A review”. Pharmacognosy Reviews. PHCOG REV Vol 2, Issue 3, Jan-Jun, 2008.PHCOG REV.

14. Sasmaz S, Arican O. Comparison of azelaic acid and anthralin for the therapy of patchy alopecia areata: a pilot study. Am J Clin Dermatol. 2005;6(6):403–6.

15. Ucak H, Kandi B, Cicek D, Halisdemir N, Derthogul SB. The comparison of treatment with clobetasol propionate 0.05% and topical pimecrolimus 1% in the treatment of alopecia areata. J Dermatol Treat. 2012;23(6):410–20.

16. Hajheydari Z, Jamshidi M, Akbari J, Mohammadpour R. Combination of topical garlic gel and betamethasone valerate cream in the treatment of localized alopecia areata: a double-blind randomized controlled study. Indian J Dermatol VenereolLeprol. 2007;73(1):29–32.

17. Shapiro J, Tan J, Ho V, Abbott F, Tron V. Treatment of chronic severe alopecia areata with topical diphenylcyclopropenone and 244 M. Hordinsky, A. Donati 5% minoxidil: a clinical and immunopathologic evaluation. J Am Acad Dermatol. 1993;29(5 Pt 1):729–35.

18. Swanson NA, Mitchell AJ, Leahy MS, Headington JT, Diaz LA. Topical treatment of alopecia areata. Arch Dermatol. 1981;117(7):384–7.

19. Georgala S, Katoulis AC, Befon A, Georgala K, Stavropoulos PG. Inosiplex for treatment of alopecia areata: a randomized placebo-controlled study. Acta Derm Venereol. 2006;86(5): 422–4.

20. Price VH, Hordinsky MK, Olsen EA, Roberts JL, Siegfried EC, Rafal ES, Korman NJ, Altrabulsi B, Leung HM, Garovoy MR, Caro I, Whiting DA. Subcutaneous efalizumab is not effective in the treatment of alopecia areata. J Am Acad Dermatol. 2008;58(3):395–402.

21. Strober BE, Menon K, McMichael A, Hordinsky M, Krueger G, Panko J, Siu K, Lustgarten JL, Ross EK, Shapiro J. Alefacept for severe alopecia areata: a randomized, double-blind, placebocontrolled study. Arch Dermatol. 2009;145(11):1262.

22. Perini G, Zara M, Cipriani R, Carraro C, Preti A, Gava F, Coghi P, Peserico A. Imipramine in alopecia areata. A double-blind, placebo-controlled study. PsychotherPsychosom. 1994;61(3–4): 195–8.

23. Kar BR, Handa S, Dogra S, Kumar B. Placebo-controlled oral pulse prednisolone therapy in alopecia areata. J Am Acad Dermatol. 2005;52(2):287.

24. Charuvichitratana S, Wattanakrai P, Tanrattanakorn S. Randomized double-blind placebo-controlled trial in the treatment of alopecia areata with 0.25% desoximetasone cream. Arch Dermatol. 2000;136(10):1276–7.

25. Mancuso G, Balducci A, Casadio C, Farina P, Staffa M, Valenti L, Milani M. Efficacy of betamethasone valerate foam formulation in comparison with betamethasone dipropionate lotion in the treatment of mild-to-moderate alopecia areata: a multicenter, prospective, randomized, controlled, investigator-blinded trial. Int J Dermatol. 2003;42(7):572–5.

26. Tosti A, Iorizzo M, Botta GL, Milani M. Efficacy and safety of a new clobetasol propionate 0.05% foam in alopecia areata: a randomized, double-blind placebo-controlled trial. *J Eur Acad Dermatol Venereol*. 2006;20(10):1243–7.

27. Ucak H, Kandi B, Cicek D, Halisdemir N, Derthogul SB. The comparison of treatment with clobetasol propionate 0.05% and topical pimecrolimus 1% in the treatment of alopecia areata. *J Dermatol Treat*. 2012;23(6):410–20.

28. Lenane P, Macarthur C, Parkin PC, Krafchik B, DeGroot J, Khambalia A, Pope E. Clobetasol propionate, 0.05%, vs hydrocortisone, 1%, for alopecia areata in children: a randomized clinical trial. *JAMA Dermatol*. 2014;150(1):47–50.

29. Fenton DA, Wilkinson JD. Topical minoxidil in the treatment of alopecia areata. *Br Med J (Clin Res Ed)*. 1983;287(6398):1015–7.

30. White SI, Friedmann PS. Topical minoxidil lacks efficacy in alopecia areata. *Arch Dermatol*. 1985;121(5):591.

31. Shi YP. Topical minoxidil in the treatment of alopecia areata and male-pattern alopecia. *Arch Dermatol*. 1986;122(5):506.

32. Chowdury MM, Rahman MH, Wahab MA. Efficacy of combination therapy for the management regime of alopecia areata. *Mymensingh Med J*. 2007;16(2 Suppl):S19–22.

