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**Case Report**

# A rare case of ophiasis pattern of alopecia areata in a child: a case report with Unani insights

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## ABSTRACT

Alopecia areata is a T cell–mediated autoimmune disease targeting hair follicles. Ophiasis is a rare subtype of alopecia areata with a snake-like hair loss pattern across the occipital, temporal, and parietal scalp. A 3-year-old Indian boy presented with a 4-month history of patchy scalp hair loss. Clinical and trichoscopic examination confirmed rare pattern of ophiasis type of alopecia areata. Ophiasis pattern of alopecia areata is considered one of the most challenging forms to treat, owing to its chronic and relapsing nature as well as its poor response to conventional therapies. In this context, the present paper attempts to provide a foundational perspective on the management of ophiasis through the Unani system of medicine.

**Keywords:** Alopecia areata, Ophiasis, Pediatric hair loss, Case report, Unani medicine

## INTRODUCTION

Alopecia areata (AA) is a common, chronic, and immune-mediated inflammatory disorder primarily targeting anagen hair follicles, resulting in non-scarring hair loss. The clinical presentation varies widely, ranging from well-demarcated patches of hair loss that may undergo spontaneous regrowth to extensive or complete hair loss of the scalp (alopecia totalis) or entire body (alopecia universalis), where the prognosis for regrowth is often poor.[1-3]

Around 2,000 years ago, the Roman physician Cornelius Celsus (25 BC–50 AD) provided the earliest known description of the condition, referring to it as “areae,” and also documented the variant later known as “ophiasis” which begins at the hinder part of the head and it creeps with two heads to the ears.[1,4,5] Hair growth is regulated by three phases of the hair cycle: anagen (active growth), catagen (regression), and telogen (resting). Hair type and length are determined by the anagen phase. In healthy individuals, shedding occurs after telogen with the onset of new anagen growth (exogen). In alopecia, shedding may occur before anagen initiation, leaving follicles empty (kenogen). Alopecia areata is primarily a hair cycle disorder characterized by a kenogen state. Multiple hypotheses have been proposed regarding the pathogenesis of alopecia areata, including environmental triggers such as viral infections, genetic predisposition, and T-cell-mediated autoimmunity. The autoimmune response may result from either a primary immune attack on the hair follicle or the loss of hair follicle immune privilege, leading to a secondary immune-mediated assault. It is generally accepted that the condition arises from a complex interplay of these factors, with the relative contribution of each varying according to the individual patient or disease subtype.[1-3,6] Its prevalence in general population is believed to be between 1.7 and 2.1%. 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.[6,7]

AA commonly manifests as localized, well-demarcated patches of hair loss. Scalp is the most common site (90%), but any part of the body may be affected. AA can be classified depending on extent and pattern of hair loss, which is depicted in Table 1.[1,8]

**Table 1: Variants of alopecia areata**

| Based on extent | Based on pattern | Miscellaneous new variants |
|---|---|---|
| **Patchy alopecia** | Reticular | Acute, diffuse,and total alopecia areata |
| **Alopecia subtotalis** | Ophiasis | Alopecia areata incognita (AAI) |
| **Alopecia totalis** | Sisaipho | |
| **Alopecia universalis** | Linear | |
| | Perinevoid | |

**Table 2: Treatment options in ophiasis.**

| Treatment category | Examples |
|---|---|
| **Topical therapies** | Corticosteroids, Minoxidil, Anthralin |
| **Intralesional corticosteroids** | Triamcinolone acetonide |
| **Topical immunotherapy** | Diphenylcyclopropenone (DPCP), Squaric acid dibutyl ester (SADBE) |
| **Phototherapy** | PUVA, Excimer laser (308 nm) |
| **Systemic corticosteroids** | Oral prednisolone, pulse methylprednisolone |
| **Immunosuppressants** | Methotrexate, Azathioprine, Cyclosporine |
| **JAK inhibitors** | Baricitinib, Ritlecitinib, |
| **Biologics** | Dupilumab |
| **Adjunctive approaches** | Platelet-rich plasma (PRP), microneedling |

Ophiasis is a distinctive clinical variant of alopecia areata characterized by a serpentine or band-like pattern of hair loss, typically affecting the temporal, occipital, and parietal regions of the scalp. Recognized by the Greek philosopher Celsus, ophiasis gets its name from ophis, the Greek word for snake referring to its snake-like distribution, particularly above the ears on the lateral aspects of the scalp.[5,9] A recent meta-analysis of 94 cohort and cross-sectional studies estimated that ophiasis had a pooled prevalence of about 0.02%.[10] The pathogenesis of ophiasis, similar to other forms of alopecia areata, is thought to be autoimmune in nature, with T-cell mediated inflammation directed against the anagen hair follicle. It has a poorer prognosis than other forms of AA. Treatment of ophiasis remains particularly challenging because of its refactory nature. Different treatment options for ophiasis are given in Table 2.[1,6,11-13]

Ophiasis, considered an uncommon subtype of alopecia areata, it holds significant clinical importance owing to its chronic course, poor prognosis, and relative resistance to conventional therapeutic modalities when compared to the classical patchy form of alopecia areata. We report the case of a 3-year-old male child presenting with alopecia areata of the ophiasis pattern.

## CASE REPORT

### *Patient information*

A 3-year-old Indian male child came to out- patient department of dermatology and cosmetology.

### *Signs and symptoms*

Patient complains of 4-month history of patchy hair loss on the occipital, temporal, vertex, and frontal scalp.

### *Clinical course*

A 3-year-old boy presented with a 4-month history of hair loss starting at the nape of the neck and gradually spreading in a band around the back and sides of the scalp. The patches were smooth and non-scarring, with no itching, pain, redness, or scaling. There was no relevant medical, family, or drug history, and his general examination was normal. Over the next months without treatment, the bald band widened. Eyebrows, eyelashes, and other body hair were unaffected.

### *Medical and family history*

There was no history of systemic illness, atopy, trauma or family history of alopecia. Growth and developmental milestones were age appropriate. Patient has not taken any treatment in past.


**Figure 1 (a-d): Patient showing band like hair pattern loss.**

***Clinical findings***

The scalp examination revealed a 3×10 cm alopecic patch on the vertex, occipital, right and the left temporal region of scalp close to the hairline, as well as widespread patchy thinning on the vertex and frontal scalp as shown in Figure 1.

Trichoscopy revealed exclamation marks, black dots, broken hair, with sparse vellus hairs with no sign of inflammation and scaling as depicted in Figure 2.

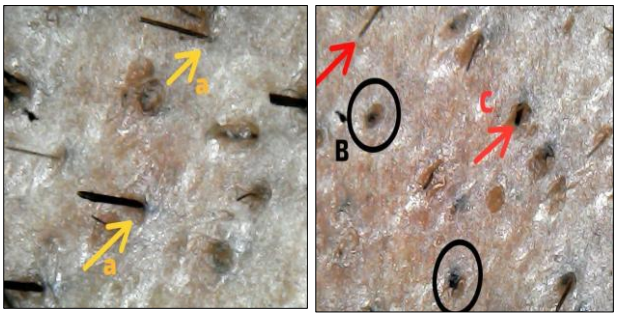


**Figure 2: Trichoscopic images showing (A) exclamation mark hairs, (B) black dots, and (C) broken hair in patient.**

***Investigations done***

Iron (12.5 g/dl) and vitamin D levels (22.5 ng/ml) were all normal.

***Diagnosis***

According to the clinical and trichoscopic findings the patient was diagnosed with alopecia areata ophiasis pattern.

***Unani perspective on alopecia areata***

Alopecia areata is a disease which can be directly correlated in the Unani system of medicine according to the clinical features described in classical texts. It is a non-scarring type of hair loss characterized by well-defined round or oval patches of baldness, most commonly affecting the scalp and beard area.

Ophiasis can be corelated to condition described as *Dā' al-Tha'lab*. The condition is described as localized loss of hair on the scalp or body, likened to the appearance seen in foxes, from which the name originates. According to Unani scholars, the pathogenesis of alopecia is rooted in disturbances of the four humors, blood (*Dam*), phlegm (*Balgham*), yellow bile (*Safra'*), and black bile (*Sauda'*), with *safra* being the more prone khilt to cause the disease. When these humors are corrupted (*Su-e-Mizaj*) and accumulate in the scalp, they obstruct the hair follicles, preventing nourishment from reaching the hair roots. Excessive coldness and dryness of the affected area further weaken the *Quwwat-e-Munbitah* (hair-producing faculty), leading to hair loss.[14]

The etiology and pathophysiology of Ophiasis, as described in both Unani and modern medicine, demonstrate certain similarities and can be correlated conceptually. While Unani medicine attributes the condition primarily to humoral imbalance, deranged temperament, and accumulation of morbid matter obstructing the nourishment of hair follicles, modern medicine explains it as an autoimmune disorder wherein T-cell–mediated inflammation targets the anagen hair follicles, leading to their miniaturization and hair loss. These comparative aspects are concisely presented in the Table 3.

**Table 3: Correlation of modern and Unani understanding.**

| Aspect | Modern | Unani |
|---|---|---|
| **Definition** | Localized hair loss from scalp or body due to various factors | Chronic, and immune-mediated inflammatory disorder, resulting in non-scarring hair loss. |
| **Terminology** | *Dā' al-Tha'lab*- patchy hair loss on scalp | Ophiasis-A variant with patchy or band-like loss at scalp margins |
| **Pathophysiology** | Derangement of temperament | Autoimmune attack on follicles |
| | Obstruction in hair follicle | Microcirculatory impairment and perifollicular inflammation |
| | Coldness and dryness | Follicular immune suppression and lack of nourishment |
| | *Quwwat-e-Munbitah* (hair-producing faculty) weakness | Follicular stem cell dysfunction |

## DISCUSSION

Ophiasis type alopecia areata is an uncommon form of hair loss characterized by a snake-like pattern, mainly affecting the temporal and occipital regions of the scalp. This type is often difficult to treat and tends to follow a chronic course. Although alopecia areata is more commonly seen in individuals under 20 years of age, its occurrence before the age of 5 is relatively rare.[3,4] Diagnosis is primarily clinical, relying on the distinct pattern of hair loss. In this case, the patient displayed the classic band-shaped distribution typical of ophiasis.

Ophiasis pattern of alopecia areata represents one of the most difficult variants to manage due to its chronicity, tendency for relapse, and poor response to conventional therapies. Early recognition of such cases, particularly in children presenting with scalp disorders, is essential for prompt dermatological assessment and timely intervention. This not only improves clinical outcomes but also facilitates better recognition of rare presentations of alopecia areata. Moreover, documentation of such cases contributes significantly to the limited evidence base available on rare variants, thereby aiding future clinical and research advancements.

In the realm of alternative and complementary approaches, there has been a renewed interest in traditional systems of medicine for managing refractory forms of alopecia. The Unani system of medicine, with its holistic and individualized therapeutic framework, provides a distinct outlook on the management of ophiasis. According to Unani principles, disease arises from derangement of humors and treatment is primarily aimed at restoring their balance. The line of management therefore emphasizes the correction of the disturbed humor through a stepwise approach. Administration of *Munzij* (concoctive) therapy to prepare the morbid matter for expulsion, followed by *Mushil* (purgative) therapy for its elimination in conjunction with the application of topical agents possessing *Qābiz* (astringent), *Jādhib* (absorbent), *Muqawwi* (strengthening), and *Muḥammir* (rubefacient) properties. This integrative strategy ensures a rational, targeted, and individualized mode of therapy.

In light of these perspectives, the current case highlights not only the clinical importance of recognizing ophiasis early but also the potential role of Unani medicine in its management. By integrating classical therapeutic principles with modern dermatological insights, Unani medicine may offer valuable contributions towards expanding the therapeutic options for this difficult-to-treat condition.

***Management in Unani system of medicine (Usoole'Ilāj and Ilāj)***

In the management of Alopecia Areata, it is essential to first ascertain the specific humoral imbalance responsible for the condition. Clinical observation of cutaneous discoloration may assist in identifying the dominant humor: erythema indicates sanguineous derangement, a yellowish hue suggests bilious predominance, blackish pigmentation denotes melancholic excess, and pallor or whiteness is reflective of phlegmatic dominance. Furthermore, due attention must be given to the patient's age, seasonal influences, intrinsic temperament, and antecedent health conditions prior to instituting a therapeutic regimen.[18-20] Local application of rubefacient (*Muḥammirāt*) and vesicant (*Muqarrīḥāt*) agents is recommended to enhance circulation and facilitate the resolution of morbid matter.[16] In cases where blood putrefaction or septic changes are present, the use of anti-putrefactive and antiseptic agents is advised both internally and topically. For external use, antimicrobial agents are employed to prevent superadded infection and promote wound hygiene. Additionally, nutritional support for the skin and hair is essential to promote regeneration, improve texture, and restore physiological functions.[16]

The Unani approach to alopecia areata involves multi-dimensional strategies aimed at correcting the underlying humoral imbalance, restoring follicular function, and promoting hair regrowth. The principles of treatment are the following.

*'Ilāj bi'l-Ghidhā (Dietotherapy)*

Light and easily digestible foods should be prescribed, such as thin broths, chapati, preparations of bottle gourd, round gourd, ridge gourd, and khichri made from moong dal.

*Mā'ul-Jubn (whey) and goat's milk is also considered useful*

Foods that generate *Balgham* (phlegmatic humor) should generally be avoided. In each case, avoidance should be observed according to the predominating humor involved in the causation. Particularly, abstinence from fish is considered obligatory

Avoid using *Ghalīz, Khushk, Namkeen* and *Hirrīf Ghidhā*. Avoid activities that induce profuse sweating.[18-21]

*'Ilāj bi'l-Tadbīr (Regimenal therapy)*

If the underlying cause is due to sanguineous derangement, then venesection of cephalic vein should be done.

Wet cupping at the affected site.

Massage: The affected area should be rubbed with a coarse cloth in order to stimulate the cutaneous vessels followed by massaging the scalp with *Roghan Zarareeh, Roghan-e-Bān, Roghan-e-Jaft, Roghan-e-Bakain, Roghan-e-Zaitūn*.[20-22]

*'Ilāj bi'l-Dawa (Pharmacotherapy)*

The line of treatment in Unani medicine primarily emphasizes the correction of deranged humors, which are considered the fundamental cause of the disease process. Therapeutic intervention is directed towards identifying the specific humor involved and restoring its balance. For this purpose, *Munzij* (concoctive) therapy is first administered to prepare the morbid matter for elimination, followed by *Mushil* (purgative) therapy to expel it from the body. The choice of *Munzij* and *Mushil* agents is carefully made in accordance with the type of humor implicated in the pathology, thereby ensuring a rational and individualized approach to treatment.[15,23]

Orally a wide range of formulations have been documented in the classical texts, among which some are described below.

If the etiology is attributed to bilious predominance, a decoction of *Halīlah* (*Terminalia chebula*) should initially be administered, followed by *Ayarij-e-Faiqra*.

In cases where the causative factor is melancholic excess, a decoction of *Ghārī Khūn* (*Polyporus officinalis*) may be prescribed, followed by *Ayarij-e-Faiqra*.

If the condition results from phlegmatic derangement, the use of *Ḥabb-e-Muntin* is recommended prior to the administration of *Ayarij-e-Faiqra*.

In all such humoral disturbances, *Ayarij-e-Faiqra* should be repeated at intervals of ten days to maintain humoral balance and prevent recurrence

Topically a wide range of topical drugs possessing diverse pharmacological properties such as *Qābiz* (astringent), *Jādhib* (absorbent), *Muqawwi* (strengthening), and *Muḥammir* (rubefacient) have been described in the Unani literature. These agents, owing to their specific actions on the scalp and hair follicles, may be effectively utilized in the management of Ophiasis. Their combined properties contribute to strengthening the hair roots, stimulating local circulation, and facilitating follicular activity, thereby offering a potential therapeutic approach within the framework of traditional medicine. In terms of topical therapy, if the affected skin responds to massage by developing erythema promptly, the prognosis is favorable and recovery is expected to be quicker. Conversely, the longer it takes for erythema to appear, the slower the healing process will be. If no erythematous response is elicited despite rubbing and massage, the condition is unlikely to resolve.[19] Several topical agents have been identified in classical texts for their beneficial role in disorders of the scalp and hair. A list of selected topical drugs is systematically depicted below.

Local application of *Sir* (*Allium sativum Linn*.) and *Khardal* (Seeds of Brassica nigra Linn.) preceded by rubbing of affected part with rough cloth.[24]

Local application of *Kaf-i- Dariya* (*Sepia officinalis*) mixed with Vinegar.[24]

Local application of *Gandhak* (Sulphur) mixed with Vinegar.[24]

*Sindoor* (Red lead) and *Siyā Mirch* (*Piper nigrum*), each six māsha, should be triturated together in onion juice (*Āb-e-Piyāz*) and applied locally over the affected area.[25]

*Kath* (*Acacia catechu*), *Kamela* (*Mallotus phillippinensis*), *Geru* (Red ochre), *Nīla Totha* (Blue vitriol), and *Nitre* (Shora), each three māsha; *Murdarsang* (Mono-oxide of Lead) and *Siyā Mirch* (Piper nigrum), each six māsha; and one tola of henna leaves (*Lawsonia inermis*) should all be finely powdered and mixed in Sesame oil (*Roghan-e-Kunjad*) for topical application over the affected area.[25]

Local application of *khardal* (*Brassica nigra Linn*), *Badam talkh* (*Prunus amygdalus var amara*), vinegar.[24]

Local application of *Roghan Aas* (*Myrtus communis L*.) on affected part.[17]

Local application of castor oil (*Ricinus communis*) on affected part.[17]

Local application of olive oil (*Olea europaea*) on affected part.[17]

## CONCLUSION

Ophiasis pattern of alopecia areata remains a challenging condition due to its chronicity, relapsing nature, and limited response to conventional therapies. Early recognition, particularly in pediatric cases, is essential for timely intervention and improved outcomes. The Unani system of medicine offers a complementary approach, emphasizing correction of deranged humors, along with the use of topical agents of specific action, thereby providing a rational and individualized treatment strategy. Case reports and literature on rare presentations such as ophiasis not only enhance clinical awareness but also contribute to the limited evidence base, supporting future research and integration of traditional therapeutic principles into modern dermatological practice.

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