ACADEMIA: Jurnal Inovasi Riset Akademik
Vol. 6, No. 4, Tahun 2026
e-ISSN : 2807-1808 | p-ISSN : 2807-2294
Online Journal System https : //jurnalp4i.com/index.php/academia

PATCH-TYPE ALOPECIA AREATA TREATED WITH COMBINATION THERAPY OF INTRALESIONAL CORTICOSTEROID, MINOXIDIL, AND VITAMIN D

Gusti Ayu Dea Dwi Apriza Dharmayani[1], Ketut Kwartantaya Winaya[2], Firly Clarissa Suyanto[3], Rose Widanti Sugiyanto[4], Natasha Caroline Gigir[5]
Resident in Dermatology and Venereology, Department of Dermatology and Venereology, Faculty of Medicine, Udayana University, Denpasar, Bali, Indonesia[1,3,4,5]
Dermatologist and Venereologist, Department of Dermatology and Venereology, Faculty of Medicine, Udayana University, Udayana University Hospital, Badung, Bali, Indonesia[2]
e-mail: deaapriza@gmail.com

Diterima: *28/7/2026*; Direvisi: *25/8/2026*; Diterbitkan: *16/9/2026*

ABSTRAK

Alopesia areata tipe *patch* merupakan alopesia non-sikatrik yang dapat menyerupai *tinea capitis*, sehingga pemeriksaan klinis dan penunjang diperlukan untuk memastikan diagnosis pada kerontokan rambut terlokalisasi. Laporan kasus ini bertujuan menggambarkan proses diagnosis, tatalaksana, dan respons klinis jangka pendek pada pasien dengan alopesia areata tipe *patch* regio oksipital. Laporan kasus deskriptif dilakukan pada laki-laki berusia 18 tahun dengan keluhan kebotakan pada kulit kepala. Evaluasi meliputi pemeriksaan dermatologis, *hair pull test*, trikoskopi, KOH akar rambut, TSH, FT4, ANA-IF, kadar serum 25(OH)D, serta penilaian keparahan menggunakan *Severity of Alopecia Tool* (SALT) dan *Alopecia Areata Investigator Global Assessment* (AA-IGA). Pemeriksaan menunjukkan beberapa patch alopesia sewarna kulit, berbatas tegas, tanpa skuama atau jaringan parut, *hair pull test* negatif, *exclamation mark hairs* pada trikoskopi, dan KOH negatif terhadap elemen jamur, yang mendukung diagnosis alopesia areata tipe *patch*. Pasien mendapat kombinasi triamsinolon asetonid intralesi 10 mg/mL, minoksidil 5% *spray* topikal, klobetasol propionat 0,05% krim, dan vitamin D 2.000 IU per oral. Pada hari ke-18, tidak ditemukan patch baru dan tampak pertumbuhan rambut *vellus* serta terminal pendek. Skor SALT menurun dari 20% menjadi 10%, sedangkan AA-IGA tetap stadium 1. Perbaikan klinis menunjukkan respons jangka pendek selama terapi multimodal dan tidak dapat diatribusikan pada satu komponen terapi.
Kata kunci: *Alopesia Areata, Patch-Type Alopecia Areata, Triamsinolon Asetonid Intralesi, Trikoskop, SALT*

ABSTRACT

Patch-type alopecia areata is a nonscarring hair loss disorder that may clinically resemble tinea capitis, making accurate diagnosis essential for appropriate management. This case report aimed to describe the diagnostic process, treatment, and short-term clinical response in an 18-year-old male with patch-type alopecia areata of the occipital region. A descriptive case report was conducted through dermatological examination, hair pull test, trichoscopy, potassium hydroxide (KOH) examination of hair roots, thyroid-stimulating hormone (TSH), free thyroxine (FT4), indirect immunofluorescence antinuclear antibody (ANA-IF), serum 25-hydroxyvitamin D [25(OH)D], and severity assessment using the Severity of Alopecia Tool (SALT) and Alopecia Areata Investigator Global Assessment (AA-IGA). Examination revealed several well-demarcated, skin-colored alopecic patches without scaling or scarring. The hair pull test was negative, trichoscopy showed exclamation mark hairs, and KOH examination was negative for fungal elements, supporting the diagnosis of patch-type alopecia areata. The patient received

https://doi.org/10.51878/educational.v6i4.14613

ACADEMIA: Jurnal Inovasi Riset Akademik
Vol. 6, No. 4, Tahun 2026
e-ISSN : 2807-1808 | p-ISSN : 2807-2294
Online Journal System https : //jurnalp4i.com/index.php/academia

intralesional triamcinolone acetonide 10 mg/mL, topical minoxidil 5% spray, clobetasol propionate 0.05% cream, and oral vitamin D 2,000 IU. On day 18, no new patches were observed, with vellus and short terminal hair regrowth. The SALT score decreased from 20% to 10%, while AA-IGA remained at stage 1. The findings indicate short-term clinical improvement during multimodal therapy, although the response cannot be attributed to any single treatment component.

Keywords: *Alopecia Areata, Patch-Type Alopecia Areata, Intralesional Triamcinolone Acetonide, Trichoscopy, SALT*

INTRODUCTION

Hair loss disorders comprise a broad group of heterogeneous conditions with diverse clinical presentations, pathological findings, and expected outcomes. One example of a hair loss disorder is *alopecia areata* (AA), a common autoimmune hair disorder characterized by nonscarring, typically patchy hair loss that may affect any hair-bearing area of the body. The pathogenesis of AA involves a loss of immune privilege in the hair follicle and dysregulation of immune-mediated inflammatory pathways, contributing to the development and persistence of hair loss (Zhou et al., 2021; Fukuyama et al., 2022). The course of AA is unpredictable, and spontaneous hair regrowth may occur at any time during the period of hair loss, although recurrence remains possible. Epidemiological evidence indicates that AA represents a substantial global health burden, with variations in its occurrence across geographic regions and populations (Wang et al., 2022).

In addition to its physical manifestations, AA may have substantial psychosocial consequences. Hair loss, particularly when involving visible areas of the scalp or other hair-bearing sites, may affect self-image, social functioning, and psychological well-being. A systematic review and meta-analysis demonstrated that individuals with AA experience a considerable burden of anxiety and depression and reduced quality of life compared with individuals without the condition (van Dalen et al., 2022). These effects emphasize that the clinical significance of AA extends beyond the extent of hair loss itself. Therefore, comprehensive management should consider not only the clinical severity of hair loss but also the individual patient's psychological and quality-of-life burden (van Dalen et al., 2022).

AA remains challenging to manage because treatment selection depends on disease severity, extent, duration, age, comorbidities, and patient preferences. Recent clinical practice guidelines emphasize individualized treatment strategies, with topical and intralesional corticosteroids remaining relevant for selected patients, while systemic treatment is considered for patients with more extensive or severe disease (Ohyama et al., 2025; Harries et al., 2025). The European expert consensus similarly recommends that systemic treatment decisions should be individualized according to disease severity, treatment goals, safety considerations, and patient characteristics (Rudnicka et al., 2024). These recommendations indicate that contemporary management of AA requires clinical decision-making that considers the specific characteristics and needs of each patient rather than relying on a single standardized treatment approach.

One of the most important recent developments in the management of AA is the use of Janus kinase (JAK) inhibitors, which target signaling pathways involved in the autoimmune mechanisms underlying the disease (Dainichi et al., 2024). A systematic review and meta-analysis demonstrated that JAK inhibitors can improve hair regrowth outcomes in patients with AA, although their efficacy and safety profiles vary among individual agents (Liu et al., 2023). More recent comparative evidence has also identified differences in the efficacy and safety of

https://doi.org/10.51878/educational.v6i4.14613

ACADEMIA: Jurnal Inovasi Riset Akademik
Vol. 6, No. 4, Tahun 2026
e-ISSN : 2807-1808 | p-ISSN : 2807-2294
Online Journal System https : //jurnalp4i.com/index.php/academia

JAK inhibitors, supporting careful treatment selection according to disease severity and individual patient characteristics (Yan et al., 2024). The emergence of targeted therapies has therefore expanded the therapeutic options available for AA. At the same time, the variability in treatment response highlights the importance of documenting individual clinical courses and outcomes when applying these therapeutic approaches in routine practice.

Despite these therapeutic advances, evidence derived from clinical trials and treatment guidelines does not fully represent the variability of treatment response that may occur in individual patients in routine clinical practice. Most studies evaluating systemic treatments, particularly JAK inhibitors, involve predefined populations and standardized treatment protocols, whereas individual patients may present with different disease patterns, disease duration, previous treatment histories, and accompanying clinical or laboratory findings. This creates a clinically relevant gap regarding how current evidence-based recommendations translate into the management of patients with specific individual characteristics and how treatment response evolves during follow-up. A case report can therefore provide complementary clinical information by documenting the diagnostic process, therapeutic considerations, treatment response, and outcome in an individual patient.

Vitamin D status may represent an additional clinical consideration in patients with AA because vitamin D is involved in immune regulation and hair follicle function (Zhou et al., 2021; Fukuyama et al., 2022). Previous evidence has suggested a relationship between vitamin D status and AA, although this association should not be interpreted as establishing vitamin D deficiency as a direct cause of the disease. When vitamin D deficiency is identified in a patient with AA, its clinical relevance should therefore be interpreted as part of the patient's overall clinical profile and considered together with disease severity, treatment selection, and treatment response. This is particularly important when vitamin D status forms part of the patient's clinical assessment, as it may provide additional context for understanding the overall presentation without implying a direct causal relationship.

The present case is clinically relevant because patch-type alopecia areata (AA) may resemble other causes of localized hair loss, particularly tinea capitis, requiring careful clinical and ancillary evaluation to establish an accurate diagnosis. This report provides a clinically contextualized description of an 18-year-old male with patch-type AA involving the occipital region, including the diagnostic evaluation, therapeutic approach, and short-term clinical response. The clinical value of this case lies in demonstrating the integration of dermatological examination, trichoscopy, laboratory evaluation, and disease severity assessment in guiding individualized management. In addition, the report describes the use of multimodal therapy and the subsequent early clinical changes observed during treatment, including hair regrowth and changes in SALT score. Rather than presenting AA management only in general terms, this case emphasizes the relationship between the patient's clinical characteristics, diagnostic findings, treatment selection, and short-term outcome. Therefore, this case report aims to describe the diagnostic process, treatment, and short-term clinical response in an 18-year-old male with patch-type AA of the occipital region.

METHODS

This study used a descriptive case report design to describe the diagnostic process, management, and short-term clinical response of a patient with patch-type alopecia areata (AA). The case was managed and evaluated at the Dermatology and Venereology Polyclinic of Prof. Dr. I.G.N.G. Ngoerah General Hospital, Bali, Indonesia, in May 2025. The subject was an 18-year-old male who presented with localized hair loss in the occipital region and was diagnosed

https://doi.org/10.51878/educational.v6i4.14613

ACADEMIA: Jurnal Inovasi Riset Akademik
Vol. 6, No. 4, Tahun 2026
e-ISSN : 2807-1808 | p-ISSN : 2807-2294
Online Journal System https : //jurnalp4i.com/index.php/academia

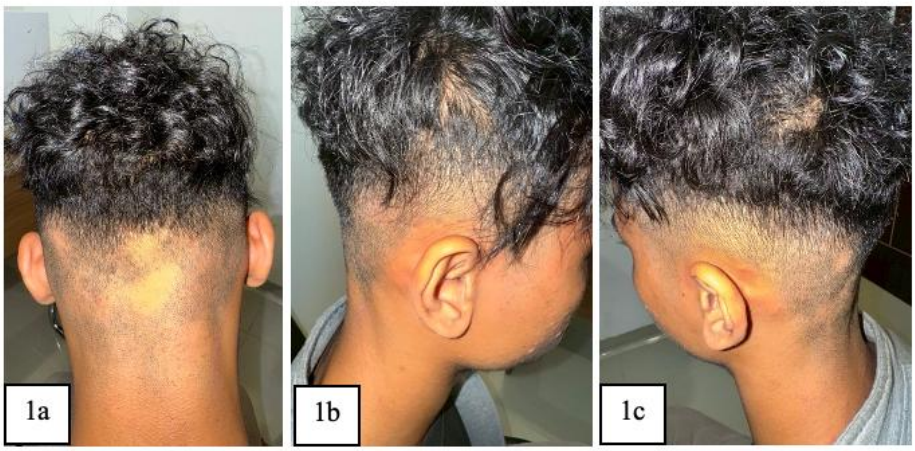
with patch-type AA based on dermatological and ancillary examinations. Data were collected through direct clinical examination, trichoscopy, laboratory investigations, treatment documentation, and clinical follow-up. The assessment included dermatological examination, hair pull test, trichoscopy, potassium hydroxide (KOH) examination of hair roots, thyroid-stimulating hormone (TSH), free thyroxine (FT4), indirect immunofluorescence antinuclear antibody (ANA-IF), and serum 25-hydroxyvitamin D [25(OH)D]. Disease severity was assessed using the Severity of Alopecia Tool (SALT) and Alopecia Areata Investigator Global Assessment (AA-IGA). The patient was selected as a case because the localized nonscarring alopecia required differentiation from other causes, particularly tinea capitis.

The treatment protocol consisted of intralesional triamcinolone acetonide 10 mg/mL, topical minoxidil 5% spray, clobetasol propionate 0.05% cream, and oral vitamin D 2,000 IU once daily. Intralesional triamcinolone acetonide was administered using a 30-gauge hypodermic needle at 2-week intervals. Following antiseptic preparation, multiple intradermal injections were performed in a linear pattern at approximately 1-cm intervals, with 0.1 mL injected at each site and a total volume of 1.1 mL administered during the first session. After the procedure, 2% sodium fusidate cream was applied to the injection sites, and the patient was instructed to maintain local hygiene, avoid washing the treated area for 6 hours, and refrain from scratching the injection sites. The patient was reassessed 18 days after the initial treatment to evaluate the appearance of new alopecic lesions, hair regrowth, dermatological changes, SALT score, and AA-IGA classification. A second session of intralesional triamcinolone acetonide at the same concentration was subsequently administered, while topical and oral treatments were continued. Data were analyzed descriptively by comparing baseline and follow-up clinical findings, SALT scores, AA-IGA classification, and observed hair regrowth. Because this was a single case report, no inferential statistical analysis was performed.

RESULTS AND DISCUSSION

Result

The initial dermatological examination was performed to characterize the distribution and morphology of the patient's scalp lesions. The occipital scalp showed multiple skin-colored alopecic patches with well-defined borders and a geographic configuration. The lesions were discretely distributed and localized to the occipital region, without evidence of scaling or scarring. The baseline clinical appearance of the lesions before treatment is presented in Figure 1.



https://doi.org/10.51878/educational.v6i4.14613

ACADEMIA: Jurnal Inovasi Riset Akademik
Vol. 6, No. 4, Tahun 2026
e-ISSN : 2807-1808 | p-ISSN : 2807-2294
Online Journal System https : //jurnalp4i.com/index.php/academia

Figures 1. Examination of the occipital scalp revealed multiple skin-colored alopecic patches with well-defined borders, a geographic shape, measuring 2 × 3 cm to 4 × 5 cm, discretely distributed, and localized in distribution.

As shown in Figure 1, the lesions exhibited a nonscarring pattern with clearly defined margins and no evidence of scaling. The absence of inflammatory symptoms, including pain and pruritus, was also noted during the examination. These findings were clinically suggestive of patch-type *alopecia areata*. The clinical findings subsequently prompted further diagnostic evaluation, including trichoscopy and KOH examination, to support the diagnosis and exclude *tinea capitis*.

Following the clinical examination, trichoscopy was performed to obtain additional morphological information from the affected scalp areas. Trichoscopic assessment is useful for identifying characteristic hair and follicular findings associated with *alopecia areata*. In this patient, the examination was performed before initiation of intralesional corticosteroid therapy to establish the baseline trichoscopic findings. The representative trichoscopic appearance is shown in Figure 2.

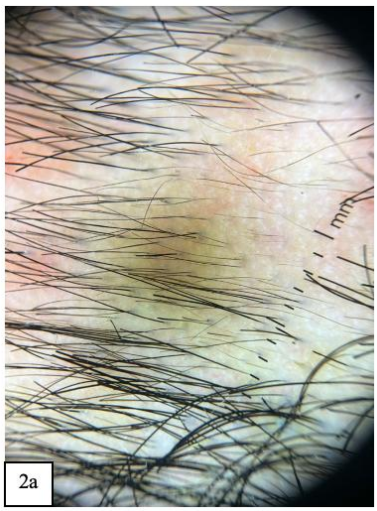


Figure 2. Trichoscopic examination demonstrating the presence of exclamation mark hairs.

The trichoscopic examination shown in Figure 2 demonstrated the presence of *exclamation mark hairs* within the affected area. This finding supported the clinical suspicion of *alopecia areata* based on the morphology and distribution of the alopecic patches. The KOH examination of the hair roots was negative for fungal elements, further reducing the likelihood of *tinea capitis*. Taken together, the clinical and ancillary findings supported the final diagnosis of patch-type *alopecia areata* involving the occipital scalp.

After the diagnosis of patch-type *alopecia areata* was established, intralesional corticosteroid therapy was selected as the primary intervention for the localized alopecic patches. Triamcinolone acetonide at a concentration of 10 mg/mL was selected for intralesional administration. The treatment was performed using a standardized injection technique to distribute the corticosteroid throughout the affected areas while limiting unnecessary exposure to surrounding unaffected skin. The preparation and administration of the first intralesional treatment session are presented in Figure 3.

https://doi.org/10.51878/educational.v6i4.14613

ACADEMIA: Jurnal Inovasi Riset Akademik
Vol. 6, No. 4, Tahun 2026
e-ISSN : 2807-1808 | p-ISSN : 2807-2294
Online Journal System https : //jurnalp4i.com/index.php/academia

Figure 3. (a) Preparation of the instruments and materials; (b) Intralesional triamcinolone acetonide injection procedure.

As shown in Figure 3, the medication was administered intradermally using a 30-gauge hypodermic needle. Multiple injections were performed in a linear pattern at approximately 1-cm intervals, with 0.1 mL injected at each site and a total volume of 1.1 mL administered. Following the procedure, 2% sodium fusidate cream was applied to the injection sites, and the patient received instructions regarding post-procedural care. The patient was subsequently monitored for clinical response and the development of new alopecic patches during follow-up.

Clinical reassessment was performed 18 days after the initial intralesional triamcinolone acetonide treatment to evaluate the early therapeutic response. The assessment focused on the presence of new alopecic patches, changes in the size and appearance of the existing lesions, and evidence of hair regrowth. Disease severity was also reassessed using the SALT score and AA-IGA classification to provide an objective comparison with the baseline assessment. The clinical findings at follow-up are presented in Figure 4.

Figures 4. The occipital scalp showing multiple skin-colored alopecic patches with well-defined borders, a geographic configuration, measuring 1 × 2 cm to 3 × 4 cm, discretely distributed, and localized to the occipital region.

https://doi.org/10.51878/educational.v6i4.14613

ACADEMIA: Jurnal Inovasi Riset Akademik
Vol. 6, No. 4, Tahun 2026
e-ISSN : 2807-1808 | p-ISSN : 2807-2294
Online Journal System https : //jurnalp4i.com/index.php/academia

As shown in Figure 4, early hair regrowth was observed within and around the previously affected areas, characterized by the appearance of fine *vellus* hairs and short terminal hairs. No new alopecic patches were reported on the scalp or other body areas, and the lesions remained without scaling or scarring. The SALT score decreased from 20% at baseline to 10% at the 18-day follow-up, while the AA-IGA classification remained at stage 1 (limited disease). These findings indicated an early clinical response following the first session of intralesional triamcinolone acetonide, and a second treatment session was subsequently performed while the existing topical and oral therapies were continued.

Discussion

Alopecia areata is an autoimmune hair disorder characterized by disruption of hair follicle immune privilege and immune-mediated inflammation that affects the normal hair growth cycle (Olayinka & Richmond, 2021; Sterkens et al., 2021). In the present case, this pathological process was clinically manifested as several well-demarcated, skin-colored alopecic patches in the occipital region of an 18-year-old male, without scaling, erythema, or scarring. The localized distribution and absence of scarring indicated that the hair follicles remained structurally preserved, which is consistent with a nonscarring alopecic process. The clinical findings were therefore more consistent with patch-type alopecia areata than with a diffuse or extensive form of the disease. Although alopecia areata is commonly encountered in dermatological practice, individual clinical courses remain unpredictable, with spontaneous regrowth and recurrence occurring across different disease patterns (Sibbald, 2023). This variability is relevant to the present patient because the early improvement observed during follow-up cannot automatically be interpreted as a definitive treatment effect or sustained remission. The case is clinically relevant because it demonstrates how a localized presentation in a young patient can be evaluated systematically and managed according to the extent of disease. The particular value of this case lies not in introducing a novel treatment, but in illustrating the practical application of localized corticosteroid therapy combined with adjunctive treatments in a patient with limited disease and documenting the early change in disease severity during follow-up.

The diagnosis in this case was supported by the concordance between the clinical and trichoscopic findings. The presence of well-demarcated, nonscarring alopecic patches without scaling or significant inflammatory symptoms was consistent with the typical clinical presentation of patch-type alopecia areata (Sterkens et al., 2021; Sibbald, 2023). In the present patient, trichoscopy revealed *exclamation mark hairs*, providing an additional clinical clue supporting the diagnosis of alopecia areata. This finding is consistent with the systematic review and meta-analysis by Al-Dhubaibi et al. (2023), which identified *exclamation mark hairs* among the characteristic trichoscopic patterns observed in alopecia areata. However, the diagnostic interpretation in this case was not based on this finding alone but on its concordance with the clinical morphology and other examination results. The differential diagnosis of *tinea capitis* was considered because dermatophyte infection may also cause localized nonscarring hair loss in young individuals. However, the absence of fungal elements on KOH examination, together with the absence of scaling and other clinical features suggestive of scalp dermatophytosis, made *tinea capitis* less likely and strengthened the diagnosis of alopecia areata (Le & Cohen, 2021). Thus, the presence of *exclamation mark hairs* strengthened the clinical suspicion of alopecia areata, whereas the negative KOH examination provided additional evidence against a fungal etiology. The combination of these findings was particularly relevant in this patient because the localized pattern of hair loss initially required

https://doi.org/10.51878/educational.v6i4.14613

ACADEMIA: Jurnal Inovasi Riset Akademik
Vol. 6, No. 4, Tahun 2026
e-ISSN : 2807-1808 | p-ISSN : 2807-2294
Online Journal System https : //jurnalp4i.com/index.php/academia

differentiation from *tinea capitis*. Thus, the combination of clinical morphology, characteristic trichoscopic findings, and negative fungal examination provided a coherent diagnostic basis for the final diagnosis.

The baseline SALT score of 20% and AA-IGA stage 1 indicated that the patient had limited scalp involvement rather than extensive or severe alopecia areata. The SALT score provided a quantitative baseline against which the subsequent clinical change could be evaluated, while the AA-IGA stage complemented this measurement by describing the overall clinical severity. In this patient, the combination of SALT 20% and AA-IGA stage 1 indicated that the disease burden was relatively limited at presentation and did not involve extensive scalp hair loss. SALT provides a quantitative estimate of the proportion of scalp hair loss and is useful for monitoring changes over time, whereas a global assessment such as AA-IGA provides a complementary clinical classification of disease severity (Sibbald, 2023). The relatively limited extent of disease was clinically important when selecting treatment because localized disease can generally be approached with local therapies rather than immediately requiring systemic immunomodulatory treatment. Current management principles emphasize that treatment selection should consider the extent of hair loss, disease activity, duration, patient age, treatment history, and patient preferences (Lintzeri et al., 2022; Sinclair et al., 2026). Accordingly, the limited disease extent observed in this patient supported the decision to use a locally directed therapeutic strategy. The baseline severity assessment also established a clinically meaningful reference point for evaluating treatment response at follow-up rather than relying solely on subjective impressions of hair regrowth.

The treatment strategy in this case involved intralesional triamcinolone acetonide combined with topical clobetasol propionate, topical minoxidil, and oral vitamin D. The choice of intralesional triamcinolone acetonide as the principal local treatment was consistent with the limited, patch-type distribution observed at baseline. The addition of topical clobetasol provided another local anti-inflammatory approach, whereas minoxidil was used as an adjunct to support hair growth. Vitamin D supplementation was included because the patient had a reduced serum 25-hydroxyvitamin D level, rather than as a substitute for the primary anti-inflammatory treatment. The use of combination therapy was based on the different therapeutic roles of these interventions rather than the expectation that each treatment would independently produce hair regrowth. Intralesional corticosteroids directly target the inflammatory process within localized alopecic patches and remain an established treatment option for limited patch-type disease, while topical corticosteroids may provide additional local anti-inflammatory activity (Lintzeri et al., 2022; Barton et al., 2022). Minoxidil acts primarily as a hair-growth-promoting agent and may be used as an adjunct to other therapies rather than as the principal immunomodulatory treatment for alopecia areata (Gupta et al., 2022). Therefore, the therapeutic regimen in this case should be interpreted as a multimodal strategy tailored to localized disease rather than as evidence that all four interventions are individually necessary or equally effective.

The early clinical response observed during follow-up was characterized by the absence of newly reported alopecic patches, the appearance of fine *vellus* and short terminal hairs, and a reduction in the SALT score from 20% to 10%. These findings represent the principal clinical changes observed after the initial treatment. The absence of new patches suggested that there was no clinically apparent progression during the 18-day follow-up period, while the appearance of *vellus* and short terminal hairs indicated early follicular regrowth within the previously affected areas. The reduction in SALT score from 20% to 10% further provided an objective measure of improvement and was consistent with the visible clinical changes. This

https://doi.org/10.51878/educational.v6i4.14613

ACADEMIA: Jurnal Inovasi Riset Akademik
Vol. 6, No. 4, Tahun 2026
e-ISSN : 2807-1808 | p-ISSN : 2807-2294
Online Journal System https : //jurnalp4i.com/index.php/academia

reduction represents a 50% relative decrease in the estimated percentage of scalp hair loss from baseline and provides an objective indication of early improvement. The appearance of regrowing hairs was also consistent with the expected clinical evolution of recovering alopecic follicles, although the short follow-up period does not permit conclusions regarding sustained remission or long-term treatment efficacy (Sibbald, 2023). Importantly, the unchanged AA-IGA stage 1 despite the reduction in SALT score illustrates that the two assessment approaches may capture different aspects of clinical change. The SALT score was sensitive to the reduction in the estimated area of hair loss, whereas the AA-IGA remained within the same broad severity category. This finding supports the use of quantitative and global assessments together when monitoring localized disease. Importantly, the observed improvement cannot be attributed to intralesional triamcinolone acetonide alone because the patient simultaneously received topical clobetasol, topical minoxidil, and vitamin D. Therefore, the appropriate interpretation is that the patient demonstrated an early clinical response during a multimodal treatment regimen rather than that any single treatment was responsible for the observed improvement.

Vitamin D status represents an additional clinical consideration in this case, but it should be interpreted cautiously. The reduced serum 25-hydroxyvitamin D level identified during the patient's evaluation adds a potentially relevant clinical finding, but it does not establish that vitamin D deficiency caused the alopecia areata. In the context of this case, the laboratory result was useful primarily for identifying a correctable nutritional or metabolic factor that could be addressed as part of comprehensive patient management. Vitamin D-related signaling has been implicated in immune regulation and hair follicle biology, providing a biological rationale for investigating vitamin D status in patients with hair disorders. However, the presence of a low vitamin D level does not establish a causal relationship with alopecia areata, and correction of vitamin D deficiency should not be interpreted as a specific treatment for the autoimmune process underlying the disease (Sterkens et al., 2021; Sibbald, 2023). Because vitamin D supplementation was administered concurrently with the other treatments, the subsequent reduction in SALT score cannot be used to determine whether vitamin D correction contributed to the clinical improvement. Thus, the role of vitamin D in this case remains supportive and should not be overstated.

The psychosocial dimension of the disease also deserves consideration because the patient expressed distress regarding the cosmetic appearance of the alopecic patches. Although the present case involved limited scalp disease, visible hair loss can have a disproportionate psychological impact, and alopecia areata has been associated with impaired health-related quality of life and increased psychological morbidity (Toussi et al., 2021). The patient's reported concern about the visible alopecic patches indicates that the clinical significance of the disease was not determined solely by the percentage of scalp involvement. Even limited hair loss in a young patient may become a source of concern because of its visibility and potential effects on self-image. Consequently, assessment of patient concerns and expectations should accompany objective evaluation of disease severity and treatment response. This observation is relevant to clinical management because treatment goals should extend beyond achieving hair regrowth and should also consider the patient's concerns, expectations, and psychosocial burden.

Several limitations should nevertheless be acknowledged. First, this report describes only one patient, limiting the generalizability of the findings. Second, the follow-up period was short, preventing assessment of long-term remission, recurrence, or sustained hair regrowth. Third, because multiple treatments were administered concurrently, the contribution of individual therapies to the observed improvement cannot be determined. In addition, the 18-

https://doi.org/10.51878/educational.v6i4.14613

ACADEMIA: Jurnal Inovasi Riset Akademik
Vol. 6, No. 4, Tahun 2026
e-ISSN : 2807-1808 | p-ISSN : 2807-2294
Online Journal System https : //jurnalp4i.com/index.php/academia

day observation period is relatively short for determining the full trajectory of hair regrowth in alopecia areata; therefore, the reduction in SALT score should be interpreted specifically as an early clinical change rather than evidence of definitive therapeutic success. The lack of a treatment-free observation period also means that spontaneous regrowth, which can occur in alopecia areata, cannot be completely separated from treatment-associated improvement (Sibbald, 2023). These limitations reinforce the need for longer follow-up and, where appropriate, serial standardized assessments to determine whether the early improvement is maintained or followed by recurrence.

Overall, this case highlights the clinical value of integrating morphology, trichoscopy, fungal examination, and standardized severity assessment when evaluating localized nonscarring alopecia in a young patient. In the present case, the diagnostic findings were internally consistent: well-demarcated nonscarring patches were accompanied by *exclamation mark hairs* on trichoscopy, while KOH examination did not demonstrate fungal elements. These findings supported patch-type alopecia areata and provided a rational basis for selecting a localized treatment strategy. During follow-up, the absence of new patches, appearance of *vellus* and short terminal hairs, and reduction in SALT score from 20% to 10% indicated early clinical improvement, although the AA-IGA remained at stage 1. The subsequent reduction in SALT score from 20% to 10% and the appearance of early hair regrowth suggest a favorable short-term clinical response during the multimodal treatment regimen, although longer follow-up is necessary to determine durability and recurrence. Taken together, the findings suggest that individualized local management can be clinically appropriate for limited patch-type alopecia areata, but the early response should be interpreted cautiously because spontaneous regrowth and the simultaneous use of several treatments prevent attribution to a single intervention. The main clinical message is that patients with limited alopecia areata may benefit from an individualized, locally directed treatment strategy, while diagnostic confirmation, objective severity assessment, psychosocial considerations, and careful longitudinal monitoring remain essential components of management (Lintzeri et al., 2022; Sinclair et al., 2026).

CONCLUSION

An 18-year-old male with patch-type alopecia areata involving the occipital scalp was diagnosed based on the clinical presentation, characteristic trichoscopic finding of *exclamation mark hairs*, and negative KOH examination for fungal elements. The patient was managed with a combination of intralesional triamcinolone acetonide, 5% topical minoxidil, 0.05% topical clobetasol propionate, and oral vitamin D at a dose of 2,000 IU daily. At follow-up, the SALT score decreased from 20% to 10%, accompanied by early hair regrowth and no development of new alopecic patches, indicating early clinical improvement during the multimodal treatment regimen. The observed improvement cannot be attributed to any single treatment because several therapies were administered concurrently.

This case highlights the importance of accurate diagnosis and individualized management of patch-type alopecia areata, particularly through the integration of clinical examination, trichoscopy, and exclusion of infectious causes. Objective assessment of disease severity using the SALT score can provide useful information for monitoring clinical changes during follow-up. Early recognition and appropriate management are important to support hair regrowth, address cosmetic concerns, and monitor potential disease progression or recurrence. The clinical course of this patient illustrates that a localized treatment strategy may be considered in patients with limited patch-type alopecia areata, while longer follow-up is needed to evaluate the durability of the response.

https://doi.org/10.51878/educational.v6i4.14613

ACADEMIA: Jurnal Inovasi Riset Akademik
Vol. 6, No. 4, Tahun 2026
e-ISSN : 2807-1808 | p-ISSN : 2807-2294
Online Journal System https : //jurnalp4i.com/index.php/academia

REFERENCES

Al-Dhubaibi, M. S., Alsenaid, A., Alhetheli, G., & Abd Elneam, A. I. (2023). Trichoscopy pattern in alopecia areata: A systematic review and meta-analysis. *Skin Research and Technology*, *29*(6), e13378. https://doi.org/10.1111/srt.13378

Barton, V. R., Toussi, A., Awasthi, S., & Kiuru, M. (2022). Treatment of pediatric alopecia areata: a systematic review. *Journal of the American Academy of Dermatology*, *86*(6), 1318-1334. https://doi.org/10.1016/j.jaad.2021.04.077

Dainichi, T., Iwata, M., & Kaku, Y. (2024). Alopecia areata: What's new in the diagnosis and treatment with JAK inhibitors?. *The Journal of dermatology*, *51*(2), 196-209. https://doi.org/10.1111/1346-8138.17064

Fukuyama, M., Ito, T., & Ohyama, M. (2022). Alopecia areata: Current understanding of the pathophysiology and update on therapeutic approaches, featuring the Japanese Dermatological Association guidelines. *The Journal of dermatology*, *49*(1), 19-36. https://doi.org/10.1111/1346-8138.16207

Gupta, A. K., Talukder, M., Venkataraman, M., & Bamimore, M. A. (2022). Minoxidil: a comprehensive review. *Journal of Dermatological Treatment*, *33*(4), 1896-1906. https://doi.org/10.1080/09546634.2021.1945527

Harries, M. J., Ascott, A., Asfour, L., Farrant, P., Hale, G., Holmes, S., ... & Constantin, A. M. (2025). British Association of Dermatologists living guideline for managing people with alopecia areata 2024. *British Journal of Dermatology*, *192*(2), 190-205. https://doi.org/10.1093/bjd/ljae385

Le, T. K., & Cohen, B. A. (2021). Tinea capitis: advances and a needed paradigm shift. *Current opinion in pediatrics*, *33*(4), 387-391. https://doi.org/10.1097/MOP.0000000000001034

Lintzeri, D. A., Constantinou, A., Hillmann, K., Ghoreschi, K., Vogt, A., & Blume-Peytavi, U. (2022). Alopecia areata–Current understanding and management. *JDDG: Journal der Deutschen Dermatologischen Gesellschaft*, *20*(1), 59-90. https://doi.org/10.1111/ddg.14689

Liu, M., Gao, Y., Yuan, Y., Yang, K., Shen, C., Wang, J., & Tian, J. (2023). Janus kinase inhibitors for alopecia areata: a systematic review and meta-analysis. *JAMA network open*, *6*(6), e2320351. https://doi.org/10.1001/jamanetworkopen.2023.20351

Ohyama, M., Ito, T., Amoh, Y., Inui, S., Imanishi, H., Ueki, R., ... & Shimomura, Y. (2025). Japanese dermatological association's clinical practice guidelines for alopecia areata 2024: a complete English translated version. *The Journal of Dermatology*, *52*(10), e876-e907. https://doi.org/10.1111/1346-8138.17859

Olayinka, J. T., & Richmond, J. M. (2021). Immunopathogenesis of alopecia areata. *Current Research in Immunology, 2*, 7–11. https://doi.org/10.1016/j.crimmu.2021.02.001

Rudnicka, L., Arenbergerova, M., Grimalt, R., Ioannides, D., Katoulis, A. C., Lazaridou, E., ... & Waskiel-Burnat, A. (2024). European expert consensus statement on the systemic treatment of alopecia areata. *Journal of the European Academy of Dermatology and Venereology*, *38*(4), 687-694. https://doi.org/10.1111/jdv.19768

Sibbald, C. (2023). Alopecia areata: an updated review for 2023. *Journal of cutaneous medicine and surgery*, *27*(3), 241-259. https://doi.org/10.1177/12034754231168839

Sinclair, R., Yang, C. C., Chung, W. H., Dhurat, R., Ganjoo, A., Khunkhet, S., ... & Zhou, C. (2026). Epidemiology, Diagnosis and Management of Alopecia Areata: An Asia-Pacific Modified Delphi Expert Panel Recommendations. *International Journal of Dermatology*. https://doi.org/10.1111/ijd.70335

https://doi.org/10.51878/educational.v6i4.14613

Sterkens, A., Lambert, J., & Bervoets, A. (2021). Alopecia areata: a review on diagnosis, immunological etiopathogenesis and treatment options. *Clinical and experimental medicine*, *21*(2), 215-230. https://doi.org/10.1007/s10238-020-00673-w

Toussi, A., Barton, V. R., Le, S. T., Agbai, O. N., & Kiuru, M. (2021). Psychosocial and psychiatric comorbidities and health-related quality of life in alopecia areata: a systematic review. *Journal of the American Academy of Dermatology*, *85*(1), 162-175. https://doi.org/10.1016/j.jaad.2020.06.047

van Dalen, M., Muller, K. S., Kasperkovitz-Oosterloo, J. M., Okkerse, J. M., & Pasmans, S. G. (2022). Anxiety, depression, and quality of life in children and adults with alopecia areata: a systematic review and meta-analysis. *Frontiers in Medicine*, *9*, 1054898. https://doi.org/10.3389/fmed.2022.1054898

Wang, H., Pan, L., & Wu, Y. (2022). Epidemiological trends in alopecia areata at the global, regional, and national levels. *Frontiers in immunology*, *13*, 874677. https://doi.org/10.3389/fimmu.2022.874677

Yan, T., Wang, T., Tang, M., & Liu, N. (2024). Comparative efficacy and safety of JAK inhibitors in the treatment of moderate-to-severe alopecia areata: a systematic review and network meta-analysis. *Frontiers in pharmacology*, *15*, 1372810. https://doi.org/10.3389/fphar.2024.1372810

Zhou, C., Li, X., Wang, C., & Zhang, J. (2021). Alopecia areata: an update on etiopathogenesis, diagnosis, and management. *Clinical reviews in allergy & immunology*, *61*(3), 403-423. https://doi.org/10.1007/s12016-021-08883-0

https://doi.org/10.51878/educational.v6i4.14613