ISSN: 2754-494X

Journal of Dermatology Research Reviews & Reports

SCIENTIFIC Research and Community

Case Report

Open Access

Extensive Alopecia Areata Effectively Treated with Methotrexate and Dexamethasone

Alcira Torres[1]*, Elianny Andazora[2], Mildred Dorta[1] and Sandra Vivas[3]

[1]Third Year Resident of the Postgraduate Program In Dermatology, University of Carabobo, Dr. Enrique Tejera Hospital City, Valencia, Venezuela

[2]Internist Dermatologist, University of Carabobo, Venezuela

[3]Internal Medicine Physicia, Dermatologist, Head of the Dermatology Department at Dr. Enrique Tejera Hospital City, Full Professor at the School of Medicine and Postgraduate Coordinator of Dermatology at the University of Carabobo, Valencia, Venezuela

ABSTRACT

Alopecia areata is a non-scarring telogenetic alopecia of autoimmune pathogenesis characterized by the appearance of alopecic plaques of variable number and size . The disease has diverse clinical presentations that vary in severity from circumscribed alopecia plaques to total or universal alopecia, the extensive variety being a more severe form of alopecia areata that can cause significant hair loss. Its etiopathogenesis is mainly described as autoimmunity, it is characterized by an alteration of the immune privilege of the hair follicle. Treatment is indicated according to the severity of the alopecia, this is based on systemic and topical therapies. It should be noted that in extensive forms (extension greater than 20% as extensive, total or universal alopecia areata) oral pulses of dexamethasone and immunosuppressants such as methotrexate combined with minoxidil hair lotion are indicated. We present the case of a 30-year-old patient from Carabobo state, who began her current illness in July 2023. Phototype cutaneous IV/VI. presents dermatosis located on the scalp in the right fronto - temporo - parieto -occipital region, characterized by an alopecia plaque measuring approximately 30x19cm, with well-defined irregular edges, a smooth, shiny surface, soft consistency, without scales, non-pruritic, of years of evolution. Paraclinical studies are indicated, and digital trichoscopy is performed and based on its findings, the diagnosis of extensive alopecia areta is concluded, establishing a therapeutic plan based on methotrexate 15 mg/week, folic acid 5 mg PO OD except on the day of MTX, dexamethasone 5 mg PO twice a week and Minoxidil 5% hair lotion daily. With satisfactory evolution after 48 weeks of treatment.

***Corresponding author**

Alcira Torres, Third-Year Resident of the Postgraduate Program in Dermatology, University of Carabobo, Dr. Enrique Tejera Hospital City, Valencia, Venezuela.

Received: March 20, 2025; **Accepted:** March 24, 2025; **Published:** March 28, 2025

Clinical Case

This is a 30-year-old female patient, native and from the town, with no known pathological history, who reports the onset of the current disease approximately 5 years ago, when she began to experience progressive hair loss following a family bereavement. She consulted doctors repeatedly with no therapeutic failure. On July 6, 2023, she went to the dermatology department of the Dr. Enrique Tejera City Hospital with signs of hemicrania alopecia. See Image 1.

Figure 1

Physical Examination

Skin phototype IV / VI according to the Fitzpatrick scale, who presents dermatosis located on the scalp in the right fronto - temporo - parieto - occipital region, characterized by an alopecia plaque measuring approximately 30 x 19 cm, with well-defined irregular edges, a smooth, shiny surface, soft consistency, without scales, non-pruritic, 5 years of evolution. Physical examination showed Jaquet's sign (+) and traction sign (-). SALT 2. See Figure 2.

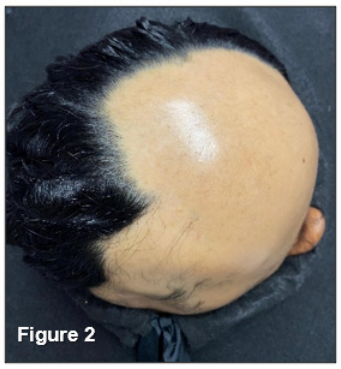

Figure 2

Trichoscopy
A 50-500X digital trichoscopy was performed, revealing a follicular opening with a single hair, blackheads, and exclamation point hairs . See Figure 3, 4, and 5.

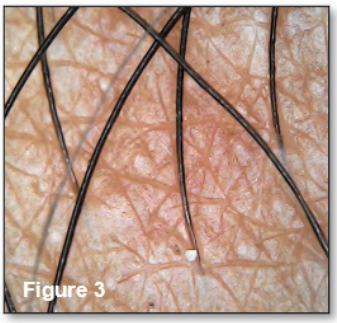
Figure 3

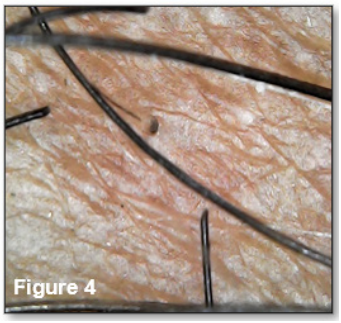
Figure 4

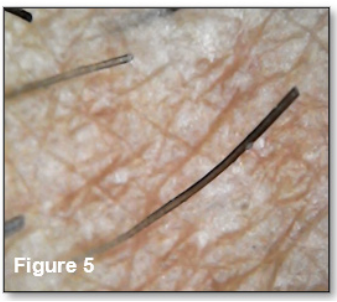
Figure 5

Onychoscopy
Pitting (dimples) is evident on the nail plate . See Figure 6.


Figure 6

Therefore, the definitive diagnosis of
- Non-scarring alopecia is established.
- Extensive alopecia areata

Work Plan
1. Medical record
2. Iconography
3. Trichoscopy
4. Laboratories: TSH, free T4, free T3, hormonal profile, HIV, VDRL, Complete hematology.
5. Psychological consultation
6. Endocrinology consultation.

Personal Background
Denies pathologies.

Laboratories
Complete Hematology
Leukocytes 6,800 cells /mm 3 / Lymph : 26% / Night : 75% / Hb:13.0gr/dl / Plate : 310,000 cells /mm 3 / Where : 37% / VCM: 80 fl / HCM: 30 pg

Blood Chemistry
Basal glycemia 80 mg / Creat : 1.2mg/dl / Urea: 30 mg
HIV: Nonreactive / VDRL: Nonreactive

Liver Enzymes
TGO: 18.00 UI/L / TGP: 12.00 U/L

Hormones
Estradiol: 91pg/ml / TSH: 3.2 mIU /mL / T3: 3.5 pg /mL / T4: 1.2 ng/dL .

Treatment
Psychological
Cognitive-behavioral therapy.

Pharmacological
Systemic
- Dexamethasone minipulses 5 mg PO twice a week
- Methotrexate 15 mg weekly
- Folic acid 5mg PO OD except on the day of MTX

Topic
- Vasodilator Minoxidil hair lotion 5%.

Intralesional
- ✓ Infiltration with growth factors: platelet-rich plasma every 15 days.
- ✓ Infiltration of Trace Elements

Clinical Evolution
- At 16 weeks of treatment, mild clinical progress was seen with areas of regrowth under treatment with minipulses of dexamethasone 8 mg weekly and methotrexate 15 mg weekly and folic acid except on the days when MTX was taken. Laboratory tests, an abdominal ultrasound, and a complete blood count were within normal limits, so treatment is continued. See Figure 7, 8, 9

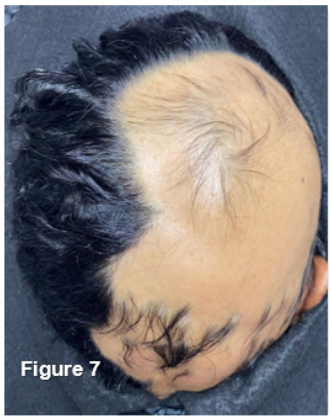
Figure 7


Figure 8

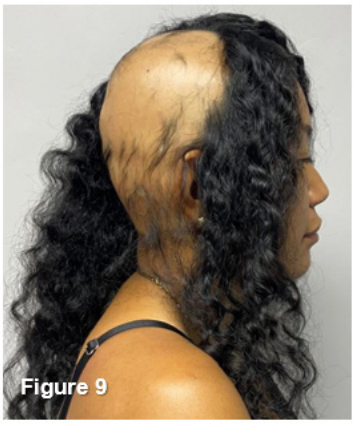
Figure 9

- With satisfactory progress at 48 weeks or (12 months) on treatment with Methotrexate and minipulses of Dexamethasone. See Figure 10,11.


Figure 10

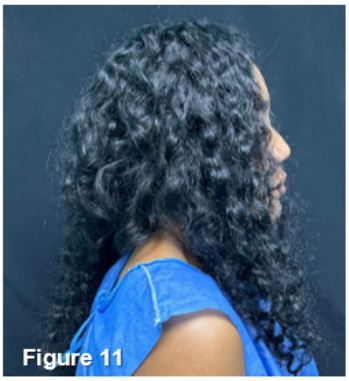
Figure 11

Discussion

Alopecia areata is a non-scarring telogene alopecia of autoimmune origin characterized by the appearance of alopecia patches of varying number and size . It is the second most common type of alopecia, with a prevalence of 2% in dermatological consultations. It affects both sexes and can occur in any age group. Hair loss has a high social stigma that influences the quality of life of those who suffer from it, especially in the case of women.

Classification

The disease has diverse clinical presentations that vary in severity from localized or patchy alopecia to total or universal alopecia, with the extensive variety being a more severe form of alopecia areata that can cause significant hair loss.

In its etiopathogenesis, autoimmunity is mainly described, it is characterized by an alteration of the immune privilege of the hair follicle, which leads to a secondary attack by the immune system, this autoimmune response is of the cellular type mediated by autoreactive T lymphocytes, causing an inflammatory infiltrate located in the bulbs of anagen hair follicles and around them, the evidence that supports the autoimmune process regulated by T lymphocytes includes the observation that CD8 + T lymphocytes are the first intramolecular lymphocytes to appear in alopecia areata . CD8 + NKG2D + cytotoxic T lymphocytes, which produce interferon (IFN) γ, are believed to play a relevant role in the pathogenesis. The involvement of IFN-γ and γ-chain cytokines (IL-2, IL-7, IL-15, IL-21) involves downstream signaling through the JAK (Janus kinase) STAT pathway. These data form the basis for cytokine-targeted therapy.

Currently, there is no curative treatment for alopecia areata, and current therapies aim to immunosuppress or immunomodulate disease activity, with generally unsatisfactory responses and high relapse rates, especially in the most severe cases. The following can be used in localized forms (minor extent 20%): Triamcinolone Intralesional 8 mg/ml and topical corticosteroids. Extensive forms (extension greater than 20%, ophiasis , AT, AU) oral pulses of dexamethasone (0.1 mg/kg/day, 2 days a week, 8-12 months). At the time of discontinuing the previous treatment, consider maintenance with triamcinolone Intralesional 8 mg/ml combined with oral minoxidil and immunotherapy with difenciprone . However, in refractory cases, consider immunosuppressants such as cyclosporine, azathioprine, and methotrexate [1-7].

Conclusion

In conclusion, the use of systemic treatments such as Methotrexate combined with corticosteroids in cases of extensive alopecia areata provides us with other therapeutic options to offer to the patient in refractory cases with an excellent response, without adverse effects, and is easily accessible, reinforced with topical therapies such as minoxidil.

Conflicts of Interest

No conflicts of interest reported

References

1. Shinwon H, Jaeyong S, Tae Gyun K, Do Young K, Sang Ho (2019) Large-scale retrospective cohort study of psychological stress in patients with Alopecia Areata according to the frequency of intralesional steroid injection. Acta Derm Venereol 99: 236 -237.
2. Moreno Sánchez A (2016) Alopecia and its psychological consequences. The role of the psychologist. Más Dermatol 24: 19-23.
3. Gutiérrez M, Rodríguez A, Moreno J (2009) Therapeutic

update on alopecia areata. Actas Dermosifiliogr 100: 266 -276
4. Lee HH, Gwillim E, Patel KR (2020) Epidemiology of alopecia areata, ophiasis, totalis, and universalis: A systematic review and meta-analysis. J Am Acad Dermatol 82: 675-682.
5. Gómez H, Moreno O, Hermosa A, Saceda-Corralo D (2023) Trichoscopy in Alopecia Areata. Trichoscopy in alopecia areata. Actas Dermosifiliogr 114: 25-32.
6. Miranda A (2015) Dermatological and psychiatric study in patients with alopecia areata. Doctoral thesis. University of Valladolid 15:12-46.
7. Dhurat R, Sharma R (2022) A Practical Approach to the Treatment of Alopecia Areata. Indian Dermatol Online J 13: 725-728.