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A Case Report On Alopecia Areata – A Comprehensive Clinical Analysis

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ABSTRACT

Alopecia areata (AA) is an autoimmune disorder characterized by non-scarring hair loss, which can significantly impact patients' psychological well-being. This case report presents an 11-year-old female patient with a sudden onset of alopecia areata, discussing clinical presentation, diagnostic approach, management, and prognosis. The patient exhibited multiple non-scarring alopecic patches on the scalp, confirmed by a positive pull test. Treatment with systemic immunosuppressants, including cyclosporine and methylprednisolone, led to significant hair regrowth over three months. This case highlights the importance of early diagnosis and individualized treatment to achieve optimal outcomes in paediatric patients with alopecia areata.

Keywords: alopecia areata, autoimmune disorder, alopecia totalis, alopecia universalis, cyclosporine, prednisolone.

I. INTRODUCTION

Alopecia Areata:

Alopecia Areata (AA) is a dermatological condition characterized by the sudden appearance of circular, well- defined, localized, non-inflammatory, non-scarring patches of hair loss. It is a complex T- cell mediated autoimmune disorder in which the immune system mistakenly targets hair follicles, leading to hair shedding. Both genetic predispositions and environmental triggers influence a person's risk of developing the condition and its severity. It impacts approximately 2% of the global population and can occur across all age groups. However, it is more frequently observed in children (1.92%) compared to adults (1.47%). 1&2

The disease may be limited to one or more discrete, well-circumscribed, round or oval patches of hair loss on the scalp or body or it may affect the entire scalp (alopecia totalis) or the entire body (alopecia universalis). The lifetime incidence of AA is approximately 2% worldwide. 3 &4

Case Report:

A 11-year female patient presented to the Dermatology department at SBMCH & RI in Renigunta, Tirupati, with a 4-months history of asymmetric and asymptomatic patchy hair loss on scalp. There is no history of head injury, and there is also no history of drug use.

On physical examination several non-scarring alopecia patches, mostly in the parietal, occipital, temporal regions of the scalp ranging in size from 2cm to 9cm (Figure-1). There was no erythema, scaling, or atrophy.

The pull test was positive at the margins of the lesions, indicating active disease.

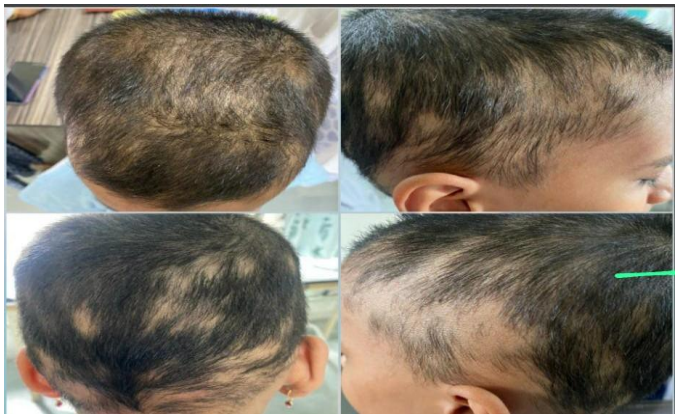

Figure-1 alopecia areata

Diagnostic Workup:

Baseline investigations like CBC, LFT, RFT, CHEST X-RAY and viral markers all should be within normal limits.

Treatment:

In view of increased number of patches low doses of Systemic Immunosuppressants: Cyclosporine 50mg for 3months along with methyl prednisolone pulse therapy for 1month. CBC, RFT and BP monitoring should be repeated for every 2weeks and the results

Follow-up and Outcome: cyclosporine 50mg for 2months. CBC, RFT and BP monitoring should be repeated for every 2weeks. After 3months of follow up, significant regrowth was observed, with reduced hair shedding. No new lesions were detected.

Figure-2 Before and After treatment of alopecia areata

II. DISCUSSION

Alopecia areata remains a challenging condition with unpredictable progression. This case highlights the importance of early diagnosis and intervention to manage symptoms effectively. The prevalence of AA is higher in children than in adults, making early

intervention essential to prevent extensive hair loss and its psychological consequences.

Management of AA depends on the extent of hair loss and disease activity. Mild cases often respond to topical corticosteroids or immunomodulators, while more severe cases may require systemic treatment. In this case, systemic immunosuppressants such as cyclosporine and methylprednisolone were used due to the increased number of lesions. Cyclosporine, a calcineurin inhibitor, suppresses T-cell activation and has shown efficacy in promoting hair regrowth. Corticosteroids help reduce inflammation and immune-mediated destruction of hair follicles.

Regular monitoring of complete blood count (CBC), renal function tests (RFT), and blood pressure was crucial to ensure the safety of systemic therapy. The patient showed significant hair regrowth with no new lesions after three months of treatment, demonstrating the effectiveness of systemic immunosuppressants in controlling the disease.

This case underscores the need for an individualized approach to treating alopecia areata. While the prognosis remains variable, early intervention and a tailored therapeutic strategy can improve outcomes and minimize psychological distress in paediatric patients.

III.CONCLUSION

Alopecia areata can be a distressing condition, especially in paediatric patients, due to its unpredictable nature and potential psychological impact. This case underscores the significance of an individualized treatment approach combining low dose systemic immunosuppressants and corticosteroids to achieve hair regrowth.

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