

Approach to Managing Recalcitrant Alopecia Areata With Combination Therapy: A Series of Five Cases in Black Pediatric Patients

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Background

Alopecia areata (AA) is a chronic autoimmune disorder causing non-scarring hair loss due to hair follicle inflammation. It disproportionately affects children of color and can progress to alopecia totalis or universalis. This disorder is triggered by immune privilege collapse of hair follicles and perpetuated by CD8+ NKG2D+ T cells via the JAK-STAT pathway. Literature on effective treatments for Black pediatric patients is limited, and no FDA-approved therapies exist for patients under 12.

Objectives

To evaluate the efficacy and safety of combination therapy including topical JAK inhibitors, vitamin D, oral fexofenadine, and adjunctive treatments in a series of five Black pediatric patients with moderate to severe alopecia areata.

Methods

- Population:** Five Black pediatric patients (ages 3–10) with moderate-to-severe AA
- Design:** Retrospective case series (2019–2025)
- Interventions:** Topical JAK inhibitors, fexofenadine, vitamin D; 2 patients also received oral JAKi, PRP, RLT, or excimer-308nm phototherapy
- Evaluation tool:** AA-IGA (Alopecia Areata Investigator Global Assessment) scores
- Outcome:** Hair regrowth and side effects

Results

- All patients achieved significant hair regrowth
- All reached AA-IGA ≤1 (minimal or no disease activity)
- Mild, transient erythema was the only adverse event reported (excimer therapy)
- One patient diagnosed with juvenile idiopathic arthritis; all others remained in remission with maintenance therapy

	Case 1	Case 2	Case 3	Case 4	Case 5
Age/sex/race	8/Female/Black	3/Female/Black	5/Female/Black	7/Female/Black	10/Male/Black
HPI	2 months of progressive hair loss and joint pain that began 1 month after contracting influenza and treatment with oseltamivir	14 months of diffuse, progressive hair loss resistant to multiple treatments	1 year of diffuse hair loss affecting 100% BSA with minimal regrowth and progressive patchy AA refractory to treatment	5 months of progressive hair loss	Initially presented for superinfected eczematous dermatitis, successfully treated with triamcinolone and mupirocin. Three months later, patient returned with 2 months of rapidly progressing hair loss
Comorbidities	Atopic dermatitis, perioral dermatitis	Acute urticaria, chronic atopic dermatitis, vitiligo	Hand, Foot, and Mouth Disease	N/A	Atopic Dermatitis, milk allergy
Therapies	- Fluocinolone oil 0.01% oil QAM - Fexofenadine 30mg/5mL BID - Vitamin D 1000 IU QD - Tofacitinib 2% ointment BID	- Fluocinolone oil 0.01% oil QAM - Dexamethasone pulse dose: 2mg/mL QW x 4 months followed by 1mg/mL QW x 1 month - Fexofenadine 30mg/5mL BID - Vitamin D 500 IU QD - Tofacitinib 2% ointment BID	- Fluocinolone oil 0.01% oil QAM - Dexamethasone pulse dose 2mg/mL QW x4 months - Fexofenadine 30mg/5mL BID - Vitamin D 500 IU QD - Tofacitinib 2% ointment BID - Excimer 308nm UVB phototherapy BIW x14 weeks	- Fluocinolone oil 0.01% oil QAM - Fexofenadine 30mg/5mL BID - Vitamin D 500 IU QD - Compound ointment (minoxidil 1%, tofacitinib 2%, fluocinolone 0.01% TIW alternating with tofacitinib 2% ointment QIW	- Fluocinolone oil 0.01% oil QAM - Dexamethasone pulse dose 6mg QW x7 months - Fexofenadine 30mg/5mL BID - Vitamin D 1000 IU QD - Ruxolitinib 1.5% cream QAM, minoxidil 2% and tofacitinib 2% QPM - Upadacitinub 15mg tablets QD - Platelet rich plasma (PRP) + LED low-level light phototherapy x5 sessions 6-8 weeks apart
Pre-treatment AA-IGA score	1 (limited)	3 (severe)	4 (very severe)	2 (moderate)	2 (moderate)
Post-treatment AA-IGA score	0 (none)	0 (none)	1 (minimal)	1 (limited)	1 (limited)
Treatment Duration	3 months	4 months	N/A	6 weeks	7 months



Case 3



Case 5

Conclusion

Combination therapy using topical JAKi, antihistamines, and vitamin D is a viable and well-tolerated strategy for managing pediatric AA in Black patients. Further large-scale studies are needed to standardize protocols and improve outcomes in this population.

References

