

EFFECT OF FAMILY HISTORY ON TREATMENT RESPONSE IN ALOPECIA AREATA PATIENTS

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Abstract

Objective: The aim of the present study was to assess the effect of family history on treatment response in alopecia areata patients. **Methodology:** This analytical cross-sectional study was carried out among 60 patients attending Dr. Lina's Skin and Aesthetics center, Dhaka within the defined period from January 2026 to March 2026. Permission was taken from the Administrative Head of the Dr. Lina's Skin and Aesthetics center authority to collect data. Purposive sampling was done according to availability of the patients. Informed written consent was taken from each Participant. Privacy and confidentiality was maintained strictly. The collected data were entered into the computer and analyzed by using SPSS (version 20.1). Patient diagnosed with alopecia areata by qualified Dermatologists will be enrolled for the study. **Result:** In our study 11.67 % alopecia areata patients give positive family history and most of the patients (88.33%) family history was negative. Patients with a positive family history had significantly poorer treatment responses (28.6% vs 66.0% achieving >50% regrowth, $p=0.046$). Patients with positive family history showed poor responses to both treatments (Fractional CO2 Laser and Intralesional steroid injection), suggesting these subgroups may benefit from alternative or combination therapeutic approaches. **Conclusion:** Patients with a positive family history had significantly poorer treatment responses suggesting family history as an independent prognostic factor.

Keywords: Family history, Treatment response, Alopecia Areata

ВЛИЯНИЕ СЕМЕЙНОГО АНАМНЕЗА НА ОТВЕТ НА ЛЕЧЕНИЕ У ПАЦИЕНТОВ С ОЧАГОВОЙ АЛОПЕЦИЕЙ

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Аннотация

Цель: Целью настоящего исследования было оценить влияние семейного анамнеза на реакцию на лечение у пациентов с очаговой алопецией. **Методология:** Это аналитическое поперечное исследование было проведено среди 60 пациентов, посещавших центр кожи и эстетики доктора Лины в Дакке в течение определенного периода с января 2026 года по март 2026 года. Для сбора данных было получено разрешение от административного руководителя центра кожи и эстетики доктора Лины. Целенаправленный отбор проб проводился в зависимости от наличия пациентов. От каждого участника было получено информированное письменное согласие. Конфиденциальность и конфиденциальность соблюдались строго. Собранные данные вводились в компьютер и анализировались с помощью SPSS (версия 20.1). Пациент, у которого квалифицированными дерматологами диагностирована очаговая алопеция, будет включен в исследование. **Результат:** В нашем исследовании 11,67% пациентов с очаговой алопецией имели положительный семейный анамнез, а у большинства пациентов (88,33%) семейный анамнез был отрицательным. Пациенты с положительным семейным анамнезом имели значительно худший ответ на лечение (28,6% против 66,0%, достигших >50% восстановления роста, $p = 0,046$). Пациенты с положительным семейным анамнезом показали плохой ответ на оба метода лечения (фракционный CO₂-лазер и внутриочаговые инъекции стероидов), что позволяет предположить, что эти подгруппы могут получить пользу от альтернативных или комбинированных терапевтических подходов. **Заключение:** Пациенты с положительным семейным анамнезом имели значительно худшие ответы на лечение, что позволяет предположить, что семейный анамнез является независимым прогностическим фактором.

Ключевые слова: семейный анамнез, ответ на лечение, очаговая алопеция.

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INTRODUCTION

Alopecia areata (AA) is a frequent, reversible kind of hair loss. The condition is characterized by localized inflammatory lesions with perifollicular T-cell infiltrates, demonstrating the importance of local cytokine generation in the formation of patchy hair loss.¹ The highest prevalence is noted in the Caucasian population (29–56% of patients older than 70), while the lowest one is observed in the Asian population (12–25% of patients over 70). The prevalence of hair loss in the family is also significantly higher in the white population.² Both males and females are equally affected, but some studies reported male preponderance. It can occur at any age. The youngest was 4-months-old, and the oldest was in late seventies. Twenty percent of cases were children, and 60% of AA patients had their first patch before 20 years of age. Highest prevalence was between 30-59 yrs of age. Family members are affected in 8.7-20% of cases.³ Patchy alopecia patients with a family history of alopecia areata experienced worse outcomes. Concomitant autoimmunity may also adversely affect alopecia areata disease course. Identification of a positive family history of alopecia areata and control of autoimmune comorbidities may aid alopecia areata management.⁴ First-line therapy for patchy disease is topical and intralesional steroids, whereas extensive disease is conventionally managed with immunotherapy. New treatment agents, such as excimer laser, low-dose recombinant interleukin 2, Janus kinase inhibitors, and simvastatin/ezetimibe, are promising.⁵

Materials & method

An analytical cross-sectional study was carried out to assess the effect of family history on treatment response in alopecia areata patients. This study was carried out among 60 patients attending Dr. Lina's Skin and Aesthetics center, Dhaka within the defined period from January 2026 to March 2026. The inclusion criteria were asymptomatic, non-scarring, patchy hair loss over scalp and elsewhere, patients age range 12 to 50 years in both sexes who never received treatment for hair loss. The exclusion criteria were extreme ages (<12 or >50 years), pregnancy or lactation, extensive (more than 3 patches) or atypical alopecia areata (alopecia totalis, alopecia universalis, diffuse). The effects of treatment were evaluated using photographs of the patients before and after the study and evaluation of patient's assessment. Sampling method was convenient type. Informed written consent was taken from each patient. Data analysis was performed by Statistical Package for Social Science (SPSS), version-23.

Results

Pediatric alopecia areata patients were ≤ 18 years <15 represented 25.0% while adult patients >15, > 18 years represented 75%. Males constituted for 45% (n=27) while females accounted for 55% (n=33) (Table 01)

Table 1: Demographic characteristics of the study groups (n=60)

Parameter	Number	Percentage
Age in years		
≤ 18 years	15	25.0%
> 18 years	45	75.0%
Gender		
Male	27	45%
Female	33	55%

11.67 % alopecia areata patients give positive family history. Most of the patients (88.33%) family history was negative. (Table 2)

Table 02: Distribution of patients by family history (n=60)

Family history	Number	Percentage
present	07	11.67%
Absent	53	88.33%

However, subtype group analysis revealed that patients with a positive family history had significantly poorer treatment responses (28.6% vs 66.0% achieving >50% regrowth, $p=0.046$), suggesting family history as an independent prognostic factor. (Table 3)

Table 3: Treatment response stratified by family history.

Parameter	FH Positive (n=7)	FH negative (n=53)	p- value
≥50% regrowth	02 (28.6%)	35 (66.0%)	0.046s
Mean Regrowth	32.4%±18.2	58.7%±19.3	0.012s

^aChi-square test was done. s = significant: ns= not significant.

Total sixty patients of alopecia areata were divided into groups. Thirty patients were treated by laser and thirty patients were treated by Intralesional steroid injection (Starting with 5mg for 1 cm square area) 4 weeks apart for 12 weeks. Patients with positive family history showed poor responses to both treatments, suggesting these subgroups may benefit from alternative or combination therapeutic approaches. (Table 4)

Table 4: Treatment responses regardless of treatment modality

Family history	Laser group ≥50% regrowth	Intralesional steroid injection ≥50% regrowth	P value
Positive	1/5 (20.0%)	1/4 (25.0%)	0.847ns
Negative	22/25 (88.0%)	13/26 (50.0%)	0.003s

^aChi-square test was done. s= significant: ns= not significant.

DISCUSSION

In our study 25% alopecia areata patients belonged to <15 years ≤ 18 years old where 75% patients belonged to > 18 years >15 years old. Most of the patients were female (55%). Similar results were obtained in the study conducted by Vestergaard et al (2025). In their study majority of the Alopecia Areata patients were female (94%).⁶ Gilhar et al (2012) stated that most of the alopecia areata patients are relatively young: up to 66% are younger than 30 years of age, and only 20% are older than 40 years of age.⁷ In this study, a small proportion of patients (11.67 %) with alopecia areata had a positive family history. Silke Redler et al. (2017) stated that only 6.5% Alopecia areata patients reported having one affected parent: mother (n=79; 54.5%) or father (n=66; 45.5%). This is not suggestive of preferential transmission from either the paternal or the maternal side (p=0.319). None of the patients reported having 2 affected parents.⁸ Arousse et al (2019) noticed that Positive family history was in 22.1% of Alopecia areata patients.⁹ In our study positive family history alopecia areata patients had significantly poorer treatment responses (28.6% vs 66.0% achieving ≥50% regrowth, p=0.046). Wcisło et al (2014) observed that poor prognostic factors of Alopecia Areata include bald patches persisting for more than 1 year, aggravation or onset of hair loss before puberty, positive family history of Alopecia Areata, ophiasis pattern of involvement, associated nail changes, atopy, and Down syndrome.¹⁰

Conclusion

In this study, a small proportion of patients with alopecia areata had a positive family history. However, patients with a positive family history demonstrated significantly poorer treatment responses compared to those without a family history, with a lower proportion achieving ≥50% hair regrowth.

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Conflict of Interest

Authors declare no conflict of Interest.

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