

## ORIGINAL ARTICLE

# A Clinico–Epidemiological Study of Alopecia Areata in a Tertiary Care Hospital of Telangana

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### Abstract

**Background:** Hair is found only in mammals its primary role was to serve as insulation and protection from unwanted agents. Hair performs no vital functions, whatsoever in man but the psychological functions of hair seem almost immeasurable. Hair is the crown of the human body; society has placed a great deal of social, religious and cultural importance of hair and hairstyles. **Methods:** The study is a cross-sectional study. Study group comprised of 50 patients who attended the DVL outpatient Department in Prathima Institute of Medical Sciences, Naganoor, Karimnagar for complaints of round to oval patches of hair loss over scalp or any other hair-bearing areas both males and females were examined for the presence of alopecia areata and included in the study after taking their consent. Complete blood picture, ESR, complete urine examination, Random blood sugars, Blood urea, serum creatinine were performed other investigations Thyroid function tests. **Results:** The youngest patient was a 4-year-old male and the oldest was 68-year-old female with a mean of 28.04 years in the present study. The maximum number of patients belonged to <20 years age group (36%). Among 50 cases, the highest duration was >6 months of 16 patients (32%) followed by 4-6 months of 18 patients (36%) and 1-3 months with 13 patients (26%) and <1 month with 3(6%) patients. 30 patients(60%) had lesions of size  $\leq 2$  cms, followed by 18 patients (36%) with size ranging from 3-5 cms, 2 patients(4%) have lesions of size  $\geq 5$ . nail changes were noted in 9 patients (18%) and absent in 41 patients (82%). recurrence of lesions of AA was present in 5 patients (10%). **Conclusion:** within the limitation of the present study it can be concluded that alopecia areata is very common in males with peak incidence below 20 years of age. The scalp region is most commonly involved. Most of the cases were of acute onset often found to be associated with thyroid disorders.

**Keywords:** Alopecia Areata, Clinical–Epidemiological study, Hair

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### Introduction

Alopecia areata is a spontaneously occurring, nonpruritic, focal to multifocal, usually well-demarcated patchy area of alopecia that may gradually enlarge. Lesions may appear anywhere on the body but are most common on the head (muzzle, periocular area, ears, chin, forehead) neck, and legs. [1] The disease heterogeneity in terms of quantitative and qualitative differences is one of the possible explanations for the inconsistencies. Alopecia areata (AA) is a commonly involving the scalp

and/or body hair, the eyebrows, eyelashes, and nails. It is characterized by sudden loss of hair in oval-shaped patches with spontaneous remission, reoccurrence, and exacerbation, without any clinical inflammatory signs. It is one of the most common forms of hair loss seen by dermatologists and accounts for 25% of all the alopecia cases. AA accounts for 2-3% of all new outpatient attendance in dermatology services. It is common throughout the world and has been estimated to affect between 0.2% and 2% of the US population. The incidence of AA in the general population is unknown but is less than 1%. At any given time 0.16%-0.2% of the

population has AA; approximately 1.7% of the population will experience an episode of AA during their lifetime. AA affects males slightly more than females' onset before the first year is unusual. The average age of onset of those severely affected is lower than those with a less severe disease. [2] In an Indian study where epidemiology of AA was studied, the incidence was 0.7% of new dermatology outpatient with the majority below 40 years and almost half (46%) of women had onset in childhood compared to men. Familial incidence was 9% with nail changes more frequent with a severe form of AA, Sharma VK *et al*, [3] In another Indian study, the proportion of children was 31%. A study by Shellow W *et al*, [4] of 800 patients responding to a questionnaire, showed an initial onset before the age of 20, a strong family history, history of the concurrent atopic disease, autoimmune diseases. No racial, sexual, geographical predilection exists. Cockayne stated that AA almost always occurs in dark-haired people and due to two factors: inherited and environmental.

### Materials and Methods

The study is a cross-sectional study. The study group comprised of 50 patients who attended the DVL outpatient Department in Prathima Institute of Medical Sciences, Karimnagar for complaints of a round to oval patches of hair loss over scalp or any other hair-bearing areas from December 2015 to November 2017. About 50 patients, both males, and females were examined for the presence of Alopecia Areata and included in the study after taking their consent. A special proforma was prepared Age, sex, occupation, socioeconomic status, site distribution, size of the lesion (cms) number of lesions of the patient and other data were recorded. Also, a detailed history was taken with emphasis on the family history, with particular reference to the onset, duration of alopecia areata, the role of predisposing factors including atopy and associated diseases.

#### Inclusion criteria

1. Patients of all ages and both sexes were included in the study.
2. Patients with circumscribed, bald patch without any signs of inflammation or scarring.

#### Exclusion criteria

1. Cicatricial Alopecia/Scarring Alopecia.
2. Congenital Alopecia /Ectodermal dysplasia.
3. Drug induced Alopecia.
4. Trichotillomania.
5. Moth eaten Alopecia in Secondary Syphilis.
6. Tinea capitis

Patients were thoroughly interviewed and examined to find out dermatological and systemic diseases. Vital data like blood pressure, pulse rate, respiratory rate were recorded and they were subjected to investigations to evaluate different etiological factors and diagnose the clinical type of alopecia areata. Complete Blood Picture, ESR, complete urine examinations, Random Blood Sugars, Blood Urea, serum creatinine were performed Thyroid function tests.

### Results

The study population comprised of 50 outpatients of alopecia areata who attended the DVL outpatient department in Prathima Institute of Medical Sciences for various complaints of hair loss. The youngest patient was a 4-year-old male and the oldest was 68-year-old female with a mean of 28.04 years in the present study. The maximum number of patients belonged to <20 years age group (36%) as shown in Table1. Of the 50 patients included in the study, 54% were males and 46% were females. The ratio of Male: Female was 1.1:1 in the current study.

**Table 1:** Age and Sex wise Distribution

Age in Years	Male		Female		Total	
	n	%	n	%	n	%
≤20	8	16	10	20	18	36
21-30	7	14	6	12	13	26
31-40	6	12	4	8	10	20
41-50	4	8	2	4	6	12
≥50	2	4	1	2	3	6
<b>Total</b>	<b>27</b>	<b>54</b>	<b>23</b>	<b>100</b>	<b>46</b>	<b>100</b>

Among 50 cases, 17 patients are agriculturists (34%) that include 10 males and 7 females, 14 patients are unemployed (28%) that include 6 males and 8 females, 11 patients are unskilled (22%) that includes 6 males and 5 females, 8 patients are skilled (16%) that includes 5 males and 3 females. Among 50 cases, 8% patients belonged to an upper high class, 8 % patients belonged to a high class, 20% patients belonged

to an upper middle class, 26% patients belonged to a lower middle class, 30% patients were poor, and 8% were very poor.

**Table 2:** Duration of disease duration of disease

Duration	No of Cases	Percentage
<1 Month	3	6
1-3 Months	13	26
4-6 Months	18	36
>6months	16	32
<b>Total</b>	<b>50</b>	<b>100</b>

Among 50 cases, the highest duration was > 6 months of 16 patients (32%) followed by 4-6 months of 18 patients (36%) and 1-3 months with 13 patients (26%) and <1 month with 3(6%) patients.

**Table 3:** Mode of onset mode of onset

Duration	Males	Females	Total	%
Acute (<3 Weeks)	24	6	30	60
Gradual (>3 Weeks)	3	17	20	40
<b>Total</b>	<b>27</b>	<b>23</b>	<b>50</b>	<b>100</b>

Among 50 cases, 30 patients had an acute onset (<3 weeks) (60 %) that include 24 males and 6 females, 20 patients had gradual onset (>3 weeks) (40%) that includes 3 males and 17 females.

**Table 4:** Site Distribution site distribution

Site of Lesion	Males	Females	No	%
Frontal	3	1	4	8
Vertex	4	2	6	12
Temporal	5	6	11	22
Occipital	7	11	18	36
Parietal	4	3	7	14
Beard	3	0	3	6
Moustache	1	0	1	2
Other Body Parts	0	0	0	0
<b>Total</b>	<b>27</b>	<b>23</b>	<b>50</b>	<b>100</b>

Among 50 cases, the most common site was the occipital region of the scalp of 18 patients (36%) that include 7 males and 11 females, followed by temporal region of 11 patients(22%) that includes 5 males and 6 females, parietal region of 7 patients (14%) that includes 4 males and 3 females , vertex region of scalp of 6 patients (12%) that includes 4 males and 2 females , frontal region of 4 patients (8%) that includes 3 males and 1 female, beard area of 3 patients (6%) that

includes 3 males, moustache region of 1 male patient (2%), no other body parts were involved. The largest diameter of the patch was considered for categorization. Among 50 cases, 30 patients (60%) had lesions of size  $\leq 2$  cms, followed by 18 patients (36%) with size ranging from 3-5 cms, 2 patients(4%) have lesions of size  $\geq 5$ .

**Table 5:** Number of Lesions

Number of Lesions	No of Cases	Percentage
Single	40	80
Multiple	10	20

Among 50 cases, 40 patients had single lesions (80%), and 10 patients had multiple lesions (20%). Among 50 cases, history of atopy was positive in 9 patients (18%), and negative in 41 patients (82%) Among 50 patients, recurrence of lesions of AA was present in 5 patients (10%) Among 50 cases, the most common associated disease of AA is thyroid disease.

## Discussion

Alopecia areata (AA) is a common form of non-scarring hair loss of scalp and/or body and has considerable importance. The mean age of patients in our study was 28.04 years. Males outnumbered females contributing to 27 and 23 cases respectively. Among the 50 patients, in the present study majority belonged to age groups of <20 years of age which was comparable to Wasserman *et al*; [5] in which 60% cases had AA before 20 years of age. In another study Rivitti *et al*; [6] quoted that alopecia areata has a peak incidence between 20 and 50 years of age. Of the 50 patients included in the study, 54% were males and 46% were females. [6-8] The ratio of Male: Female was 1.1:1 in the current study. In a study conducted by Sharma *et al*, [3] there was slightly higher incidence among males. In some studies both sexes were equally affected 55 Distribution according to Literacy among 50 cases, in the present study illiterate people comprises of (20%), primary (16%), secondary (24%), Intermediate (22%) and graduates are (18%). No studies were found regarding literacy, no relationship of literacy to alopecia areata. Among 50 cases, in the present study 17 patients were agriculturists (34%) that include 10 males and 7 females, 14 patients were unemployed (28%) that include 6 males and 8

females, 11 patients were unskilled (22%) that includes 6 males and 5 females, 8 patients were skilled (16%) that includes 5 males and 3 females. Roselino AM *et al.*,<sup>[9]</sup> in his study stated that the survey of the literature did not show reports of alopecia areata as an occupational dermatosis. So we did not find any relationship of occupation to alopecia areata. Among 50 cases, in the present study, the highest duration was 4-6 months of 18 patients (36%), followed by >6 months of 16 patients (32%), 1-3 months with 13 patients (26%) and <1 month with 3 patients (6%). MJ Harries *et al.*,<sup>[10]</sup> reported alopecia areata starts as an initial patch and subsequent process is very varied, the initial patch may re-grow within a few months, or further patches may appear after an interval of 3-6 weeks and then in a cyclical fashion these intervals are of varying duration.

In the present study, alopecia areata is distributed over the occipital region of the scalp of 18 patients (36%) Maryam *et al.*,<sup>[11]</sup> reported that in both sexes, occipital and temporal areas of scalp were commonly involved which correlates to the present study. Among 50 cases, in the present study 30 patients had lesions of size  $\leq 2$  cms (60%), followed by 18 patients with size ranging from 3-5 cms (36%), 2 patients have lesions of size  $\geq 5$  (4%). Among 50 cases, in the present study history of atopy was positive in 9 patients (18%), and negative in 91 patients (82%). In a study by S Sukhjot *et al.*,<sup>[12]</sup> has been reported that Atopy occurs with an increased frequency in patients with alopecia areata. It has been reported that atopic dermatitis is less severe in Asians and in other underdeveloped and tropical countries.<sup>[13-17]</sup> Among 50 cases, in the present study nail changes, were noted in 9 patients (18%) and absent in 41 patients (82%). In an article, nail changes have been described in 7-66% of patients with AA.<sup>[18]</sup> Maryam *et al.*,<sup>[11]</sup> observed nail changes in 14.2% of cases. Sharma *et al.* found that nail changes were more common in the patients with extensive alopecia 80. Among 50 cases, in the present study, a positive family history was recorded in 16 % of the cases. Seetharam *et al.*,<sup>[19]</sup> reported that autoimmune thyroiditis is associated with 8- 28% of cases and thyroid antibodies do not have any clinical correlation with severity. 84 It is less common in Japan and the Netherlands.<sup>[20]</sup> In India, an

earlier study by Sharma *et al.*,<sup>[3]</sup> reported autoimmune thyroiditis in only 1% of AA patients, whereas a recent study showed thyroiditis in 18.3% of AA cases.<sup>[21]</sup> The other associated conditions are vitiligo, psoriasis, diabetes mellitus, Down's syndrome, Addison's disease, autosomal recessive autoimmune polyglandular syndrome, systemic lupus erythematosus, celiac disease, ulcerative colitis, and multiple sclerosis. These are less common and are more likely to be associated with Alopecia total/Alopecia Universalis<sup>[22]</sup> Sharma *et al.* reported that the presence of vitiligo in family members was a definite risk factor for developing severe forms of alopecia.<sup>[3]</sup>

## Conclusion

Within the limitation of the present study, it can be concluded that alopecia areata is very common in males with peak incidence below 20 years of age. The scalp region is most commonly involved. Most of the cases were of acute onset often found to be associated with thyroid disorders.

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## References

1. Hordinsky, Maria K. Alopecia Areata, Chapter 8 in Disorders of Hair Growth, Olsen, Elise A. New York: McGraw-Hill Inc.1994; 195-222.
2. Wadhwa S. L., Uday, Khopkar and Jayakar, Thomas, Disorders of Hair, Chapter 25 in IADVL Textbook and Atlas of Dermatology, Valia R.G., Valia A. R.,1SI Ed, Bombay: Bhalani Publishing House, 1998; 630-664.
3. Sharma V. K. Dhawan G, Kumar B. Profile of Alopecia Areata in Northern India. Int J Dermatol 1996; 35(1):22-27.
4. Shellow, William V. R. et. al., Profile of Alopecia Areata: A Questionnaire Analysis of Patient and Family. Int J Dermatol. 1992; 31(3):186-189.
5. Wasserman D, Guzman-Sanchez DA, Scott K, McMichael A. Alopecia areata. Int J Dermatol 2007; 46: 121-31.

6. Moreno GA, Ferrando J. Alopecia areata. *Med Cutan Ibero Latina Americana*. 2000; 28:294-312.
7. Dawber RPR, de Berker D, Wojnarowska F. Disorders of hair. In: Champion RH, Burton JL, Burns DA, Breathnach SM, editors. *Textbook of dermatology*. Oxford: Blackwell Science. 1998; 2919-27.
8. Ferrando Roqueta FJ, Corral Blanco C, Lobo Satue A, Grasa Jordan MP. Estudios clínicos y de laboratorios. Estudio de los fenómenos de estrés y su relación con variables psicopatológicas, clínicas e inmunológicas en pacientes con alopecia areata. *Actas Dermosifiliogr* 1996; 87:597-609.
9. Roselino AM, Almeida AM, Hippolito MA, Cerqueira BC, Maffei CM, Menezes JB, Vieira RE, Assis SL, Ali SA. Clinical-epidemiologic study of alopecia areata *Int J Dermatol*. 1996;35(3):181-4.
10. MJ Harries, J Sun, R Paus, LE King Jr. Management of alopecia areata. *BMJ* 2010; 341: 3671.
11. Maryam Akhyani, Hasan Seirafi, Zahra Hallaji, Pardis Kiani, et al; between the severity of alopecia areata and its risk factors *Iran J Dermatol* 2011; 14: 6-11
12. Sukhjot S, Sharma VK, Kumar L, Kumar B. Atopy and alopecia areata in North Indians. *Indian J Dermatol Venereol Leprol* 2001;67:231-3
13. Ikeda T. A new classification of alopecia areata. *Dermatologica* 1965;131:421- 446.
14. Muller SA, Winkelmann RK. Alopecia areata. *Arch Dermatol* 1963;88:290- 297.
15. De Weert, Temmerman L, Kint A. Alopecia areata: A clinical study *Dermatologica* 1984; 168 : 224-229.
16. Kanwar AI, Dhar S. Severity of atopic dermatitis in India. *Br J Dermatol* 1994;131:733-734.
17. Davis RH, Sarkany I. Atopic eczema in Europeans and Negro, West Indian infant in London. *Br J Dermatol* 1961; 73 :410-414.
18. Tosti A, Bellavista S, Iorizzo M. Alopecia areata: a long term follow-up study of 191 patients. *J Am Acad Dermatol* 2006; 55:438-41.
19. Seetharam KA. Alopecia areata: An update. *Indian J Dermatol Venereol Leprol* 2013;79:563-75.
20. Kasumagic-Halilovic E. Thyroid autoimmunity in patients with alopecia areata. *Acta Dermatovenerol Croat* 2008;16:123-5.
21. Thomas EA, Kadyan RS. Alopecia areata and autoimmunity: A clinical study. *Indian J Dermatol* 2008;53:70-4.
22. Goh C, Finkel M, Christos PJ, Sinha AA. Profile of 513 patients with alopecia areata: Associations of disease subtypes with atopy, autoimmune disease and positive family history. *J Eur Acad Dermatol Venereol* 2006;20:1055-60.