

A clinical & histopathological study of alopecia areata at a tertiary hospital and research centre

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Abstract

Background: Alopecia areata (AA) is hypothesized to be an organ-specific autoimmune disease mediated by T cells directed to the hair follicle. Despite numerous studies related to individual disease associations in AA, there is paucity of literature regarding comprehensive studies on concomitant cutaneous and systemic diseases. Hence there is need for better understanding of the disease. This study is intended to determine the prevalence, clinical and histopathological study of the disease.

Objectives

1. To study the hospital based prevalence of Alopecia areata.
2. To study the clinical and histopathological features of Alopecia areata.
3. To study the associated cutaneous and systemic disorders.

Methods: A total of 100 clinically diagnosed cases of Alopecia Areata who were consenting for both clinical evaluation and investigations were taken after a thorough informed consent. A detailed history was taken with emphasis on age, sex, socioeconomic status, history of Atopy and other autoimmune disorders, family history of AA, mode of onset, recurrence and complete examination of skin lesions, nails and mucous membranes was done to note morphology, distribution, extent, site, number, size etc and investigations such as VDRL, complete hemogram, FBS, PPBS, urine routine and thyroid profile, biopsy were done.

Results: Out of the patients who attended the Dermatology outpatient Department in the study period, prevalence of AA was 0.23%, 21-30 years was the most common age group, male to female ratio was 1.56:1, 51% of subjects were in low socioeconomic group, about 80% of subjects had multiple lesions, Occipital lesion was most commonly presenting site for 47% of cases, lesions measured less than 2cm in 61% of cases, family history of AA was found in 14% of subjects, history of Atopy and other autoimmune diseases was seen in 11%

and 7% respectively, Majority (87%) of cases reported gradual onset of hair loss, Recurrences were noted in about 31% of cases and nail changes in 13% of subjects. On histopathology diagnosis of alopecia areata is based on peribulbar lymphocytic infiltrates, predominance of non-anagen terminal follicles, pigment casts and perifollicular fibrosis with a normal epidermis.

Conclusion: Alopecia areata is a relatively benign non scarring form of hair follicle specific autoimmune disease, triggered by environmental factors in genetically susceptible individuals. Associated factors such as atopy, psychological stress and other autoimmune diseases may play a role in increasing the severity of AA. Hence a standard protocol has to be followed in treating this patients, depending upon the severity, extent, age and associated autoimmune disorders with thorough counselling. To conclude, pathologists can make a diagnosis of AA based on peribulbar lymphocytic infiltrates, predominance of non-anagen terminal follicles, pigment casts and perifollicular fibrosis with a normal epidermis.

Keywords: Alopecia areata; psychological stress and autoimmune diseases

Introduction

Hair is found only in mammals, where during the course of evolution its primary roles were to serve as insulation and protection from the elements (unwanted agents). In contemporary humans, however, hair purpose revolves around its profound role in social interactions.

Hair is the crown of the human body; society has placed a great deal of social, religious and cultural importance on hair and hairstyles. Hair performs no vital functions whatsoever in man but the psychological functions of hair seems almost immeasurable. Hair has not only been a symbolic indicator of gender, but of social, religious and professional status as well.

Alopecia may be interpreted as a loss, miniaturization, involution, or increased fragility of the hair at all hair bearing sites, such as scalp, face, eyebrows, eyelashes, and body. Historically, Alopecia has been classified as non-scarring and scarring. In the non-scarring Alopecia there is lack of reparative fibrosis and follicles are frequently present indicating a possibility of regeneration of follicle.

Alopecia Areata is characterized by complete or near complete absence of hair in one or several circumscribed areas. There is no visible evidence of inflammation, and the follicular openings are preserved.

Alopecia areata (AA) is hypothesized to be an organ-specific autoimmune disease mediated by T cells directed to the hair follicle.

Methodology

Source of data

The study included 100 patients with Alopecia areata attending the Out Patient Department of Skin and STD, at a, tertiary hospital and research centre.

Inclusion criteria

- Patients clinically diagnosed as Alopecia Areata.

Exclusion criteria

- Patients on treatment for Alopecia Areata.
- Patients with secondary infection

Method of collection of data

Sample size: 100 cases of Alopecia areata were selected attending the Out Patient Department of Skin and STD at a tertiary hospital and research centre, were selected.

Duration of Study

18 Months (Jan 2015-june 2016)

Results

One hundred clinically diagnosed cases of AA were taken for study. A total of 48250 cases attended the out-patient Department of Skin and STD during the period and out of which Alopecia areata constituted 115 cases, contributing to 0.23% of all skin conditions. The clinico-histopathological analysis of the study is as follows.

Table 1: Prevalence of AA among the Dermatology outpatient population

Total Number of patients attended Dermatology OPD	Total Number of Alopecia Areata Patients attended OPD	Percentage Prevalence of AA in Dermatology Outpatient Population
48250	115	0.23%

Table 2: Age distribution of Alopecia Areata

Age (years)	Number of cases	Percentage
1-10	23	23%
11-20	16	16%
21-30	32	32%
31-40	14	14%
41-50	10	10%
>50	5	5%
Total	100	100

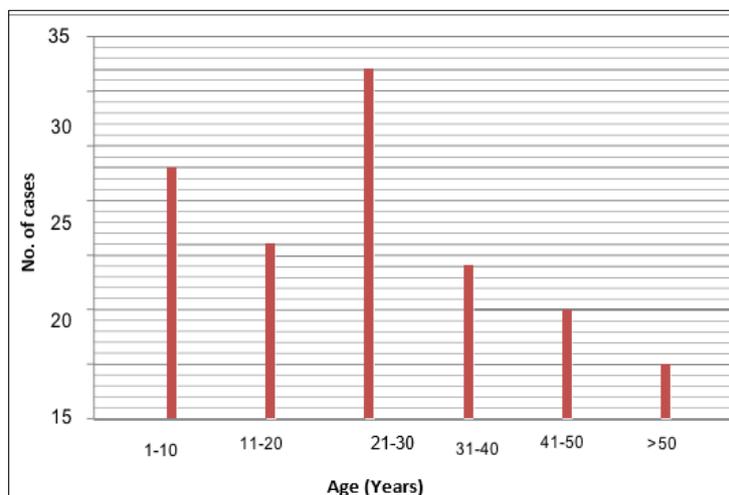


Fig 1: Age distribution of Alopecia Areata

Out of 100 cases, the maximum number of cases belonged to 21-30 years (32%) followed by 1-10 years (23%) and 11-12 years (16%). 10 patients belonged to 41-50 years, 5 patients were of >50 years (5%) The youngest was 2 years old and oldest was 61 years old.

Discussion

Alopecia Areata is a recurrent, non-scarring type of hair loss affecting hairy areas of the body. It is a disease with multi factorial aetiology and associations. Although medically benign it can cause tremendous social, emotional and psychological stress to the patients and their families. Hence early treatment and counselling the patients by addressing the associated conditions serves utmost importance.

One hundred clinically diagnosed cases of AA attending the Outpatient Department of Skin and STD, at a, tertiary hospital and research centre were taken for the study. The results obtained from this study is compared with other studies and discussed below. In the present study an attempt is made to know the Clinical and histopathological aspects of AA.

The prevalence of AA in patients attending the Out Patient Department in our study was 0.23% which is comparable to study conducted by Sharma *et al.* (0.7%), but the prevalence was less in comparison to a study conducted by Tan *et al.* where the prevalence was found to be 3.8% among the Dermatology Out-patient Department. The slightly higher prevalence when compared to North Indians, in our study may be related to the different environmental conditions, social, psychological stress and genetic differences.

Conclusion

- Overall prevalence of AA among patients attending Dermatology outpatient Department was 0.23%.
- The most common age group affected was 21-30 years of age group, with male predominance.
- Almost half of the patients belonged to low socioeconomic status.
- Multiple lesions involving scalp was the commonest presentation.
- Hereditary factors may play a role in alopecia areata.
- Atopy may herald the early onset of alopecia areata by a decade.
- Among nail changes, pitting is the most common nail change seen.
- Autoimmune disorders like diabetes mellitus, thyroid disorders may be associated.
- AA is regarded as a non-scarring alopecia. However, the course of the disease is very unpredictable and upto 25% of patients progress to irreversible hair loss and scarring.

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