Original Research Article

Study of disease activity and its severity among patients of alopecia areata with the help of dermoscopic findings

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Abstract

Background: Alopecia areata (AA) is a common form of non-scarring alopecia involving the scalp and/or body, characterized by hair loss without any clinical inflammatory signs. **Aims and Objectives:** To Study disease activity and its severity among patients of alopecia areata with the help of dermoscopic findings. **Methodology:** After Institutional Ethical permission a cross-sectional study carried out at Dr D. Y. Patil Medical College, Pimpri, Pune during 2 years period i.e. January 2015 to December 2016 at Dermatology, Venereology and Leprology in 150 patients. The Statistical analysis done by ANOVA by SPSS software version 19. **Results:** The mean age in our study was 21.43 Yrs., the majority of the patients were in the age group of 30-40 i.e. 31.33% followed by 20-30- 24.67%, 40-50 were 18.67%, 10-20 were 10.67%, 50-60 were 8.00%, and >60 were 2.67%. The majority of the patients were Male i.e. 72.67% followed by Female i.e. 27.33%. The majority of the patients were having Patchy Single i.e. 41.33%, Followed by Patchy Multiple- 27.33%, Ophiasis in 10.67%, Sisaphio in 8.00%, Reticulate in 6.00%, Diffuse in 4.00%, Alopecia totalis in 2.67%, Alopecia universalis in 1.33%. Mean Yellow Dots per Field of Vision according to the type of Alopecia Areata Universalis Was 54.1±12.2, Ophiasis was 19.2±9.1, Diffuse - 13.1±9.2, Totalis-10.1±7.2, Patchy, localized-3.5± 2.1, Patchy, multiple-2.1±1.9 this was correlated significantly with disease activity (ANOVA, F=5.99,P<0.04). **Conclusion:** It can be concluded from our study that majority of the patients were having Patchy Single type of AA and Mean Yellow Dots per Field of Vision according to the type of Alopecia Areata was correlated significantly with disease activity.
Key Words: Alopecia Areata (AA), Dermoscopic findings, Alopecia totalis, Alopecia universalis.

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INTRODUCTION

Alopecia areata (AA) is a common form of non-scarring alopecia involving the scalp and/or body, characterized by hair loss without any clinical inflammatory signs. It is one of the most common form of hair loss seen by dermatologists and accounts for 25% of all the alopecia cases. [1] It was first described by Cornelius Celsus, and the term AA was coined by Sauvages in 1760. [2] It accounts for 2-3% of the new dermatology cases in UK and USA, 3.8% in China, and 0.7% in India.[2,3,4] In general population, the prevalence was estimated at 0.1-0.2% with a lifetime risk of 1.7%. [4] Both males and females are equally affected, [5] but some studies reported male preponderance. [2,4,6,7] It can occur at any age. The youngest was 4-months-old, and the oldest was in late seventies. [8] Twenty percent of cases were children, and 60% of AA patients had their first patch before 20 years of age. [5] Highest prevalence was between 30-59 yrs of age. [1] Family members are affected in 8.7-20% of cases. [2,8]

MATERIAL AND METHODS

After Institutional Ethical permission a cross-sectional

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study carried out at Dr D.Y.Patil Medical College, Pimpri, Pune during 2 years period i.e. January 2015 to December 2016 at Dermatology, Venereology and Leprology in 150 patients Written and informed consent was obtained from all patients. All AA patients attending Dermatology, Venereology and Leprology Department with dermoscopic findings, Age group – All age group, male and female, Patient willing to participate after taking written informed consent were included into the study. Patient with other diseases. Patient not willing to participate in the study were excluded from the study. The handheld dermoscope (Heine delta 20) has 20X magnification was used for Digital camera was used for dermoscopic study. The most common dermoscopic finding were yellow dots, black dots, broken hairs, short vellushair, tapering hairs. Dermoscopic findings will be collected in photographs, will show the diagnosis of alopecia areata, but yellow dots were mostly correlated with disease activity so they considered for analysis here.

RESULTS

Table 1: Distribution of the patients as per the age

Age	No.	Percentage (%)
<10	6	4.00
10-20	16	10.67
20-30	37	24.67
30-40	47	31.33
40-50	28	18.67
50-60	12	8.00
>60	4	2.67
Total	**150**	**100.00**

The mean age in our study was 21.43 Yrs., the majority of the patients were in the age group of 30-40 i.e.31.33% followed by 20-30- 24.67%, 40-50 were18.67%, 10-20 were 10.67%, 50-60 were 8.00%, and >60 were 2.67%.

Table 2: Distribution of the patients as per the Sex

Sex	No.	Percentage (%)
Male	109	72.67
Female	41	27.33
Total	**150**	**100.00**

The majority of the patients were Male i.e. 72.67% followed by Female i.e. 27.33%.

Table 3: Distribution as per the Clinical types of Alopecia Areata

Clinical types	No.	Percentage (%)
Patchy		
Single	62	41.33
Multiple	41	27.33
Ophiasis	16	10.67
Sisaphio	12	8.00
Reticulate	9	6.00
Diffuse	5	4.00
Alopecia totalis	3	2.67
Alopecia universalis	2	1.33
Total	**150**	**100**

The majority of the patients were having Patchy Single i.e. 41.33%, Followed by Patchy Multiple- 27.33%, Ophiasis in 10.67%, Sisaphio in 8.00%, Reticulate in 6.00%, Diffuse in 4.00%, Alopecia totalis in 2.67%, Alopecia universalis in 1.33%.

Table 4: A Study Mean Yellow Dots per Field of Vision according to the type of Alopecia Areata

Types ofAlopecia Areata	Mean ± SD
Universalis	54.1±12.2
Ophiasis	19.2±9.1
Diffuse	13.1±9.2
Totalis	10.1±7.2
Patchy, localized	3.5± 2.1
Patchy, multiple	2.1±1.9

Mean Yellow Dots per Field of Vision according to the type of Alopecia Areata Universalis. Was 54.1±12.2, Ophiasis was 19.2±9.1, Diffuse - 13.1±9.2, Totalis-10.1±7.2, Patchy, localized-3.5± 2.1, Patchy, multiple-2.1±1.9 this was correlated significantly with disease activity (ANOVA, F=5.99,P<0.04).

DISCUSSION

In general, clinical diagnosis of AA is made based on typical pattern of hair loss, which can be supported by the presence of characteristic exclamation mark hair in microscopy. However, in some cases, the clinical diagnosis may not be straightforward, and in such cases, invasive (punch biopsy) techniques are often required, which are frequently not well accepted by patients, especially children.[9] Acute diffuse AA, also known as alopecia areata incognita, presents like acute telogen effluvium causing great diagnostic difficulty.[10,11] Dermoscopy is a non-invasive procedure which was initially used to assess pigmented lesions. Recent studies have shown that dermoscopy can be a useful tool for the clinical diagnosis of AA by the presence of cadaverized hairs (black dots), exclamation mark hairs (tapering hairs), broken hairs, yellow dots and clustered short vellus hairs in the hair loss areas.[11] Clinically, the disease manifests as patchy alopecia, reticulate alopecia, ophiasis, ophiasisin versus (sisaphio), alopecia totalis or alopecia universalis.[12] A new subtype of AA is acute diffuse and total alopecia of the female scalp characterized by rapid progression of diffuse alopecia of the female scalp, marked female predominance and a favorable prognosis.[13] In our study we have found that The mean age in our study was 21.43 Yrs. this was consistent with the previous studies.[13, 14] the majority of the patients were in the age group of 30-40 i.e. 31.33% followed by 20-30-24.67%, 40-50 were 18.67%, 10-20 were 10.67%, 50-60 were 8.00%, and >60 were 2.67%. The majority of the patients were Male i.e. 72.67% followed by Female i.e. 27.33%. The majority of the patients were having Patchy

Single i.e. 41.33%, Followed by Patchy Multiple-27.33%, Ophiasis in 10.67%, Sisaphio in 8.00%, Reticulate in 6.00%, Diffuse in 4.00%, Alopecia totalis in 2.67%, Alopecia universalis in 1.33%, this was also similar to The study by Inui *et al.*[14] and Mane *et al.*,[13] also noted patchy alopecia as the most common pattern involving 46.7% and 87.7% of patients respectively. Mean Yellow Dots per Field of Vision according to the type of Alopecia Areata Universalis Was 54.1±12.2, Ophiasis was 19.2±9.1, Diffuse - 13.1±9.2, Totalis-10.1±7.2, Patchy, localized-3.5± 2.1, Patchy, multiple-2.1±1.9 this was correlated significantly with disease activity (ANOVA, F=5.99,P<0.04). These findings are similar to the study done by Nishant GhodakeBapu *et al*[15] they showed YD/FOV a significant correlation with the severity of disease. Dermoscopic assessment for the number of YD/FOV could be included in the evaluation of AA as it could serve as a guide to sub classify AA based on the severity and extent of involvement, and also to serve as a prognostic indicator. The high frequency of YDs in their study and the study by Mane et al. suggest that YDs are very important dermoscopic feature in south Indian patients with AA. YDs are a powerful new tool in the diagnosis of hair loss diseases initially proposed by Ross *et al.*[16,17] YDs are marked by a distinctive array of yellow to yellow-pink, round or polycyclic dots that vary in size and are uniform in color. They represent distention of the affected follicular infundibulum with keratinous material and sebum. In AA, degenerating follicular keratinocytes probably constitute the bulk of the YD. 17 In a study conducted by Inui *et al.*[16]

CONCLUSION

It can be concluded from our study that majority of the patients were having Patchy Single type of AA and Mean Yellow Dots per Field of Vision according to the type of Alopecia Areata was correlated significantly with disease activity.

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