



Study of the Disease's Activity and Graveness in Alopecia-Areata Subjects Using Dermoscopic Data

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ABSTRACT

Introduction: Alopecia-areata (AA) is a frequently influencing the body and/or scalp that is defined by hair loss in the absence of clinically discernible inflammation.

Aims and Objectives: to use dermoscopic results to research disease activity and graveness in Alopecia-areata subjects.

Methodology: A cross-sectional research was conducted on 300 subjects in the medical institute in central India over a two-year period with institutional ethical authorization. Using SPSS software version 19, an ANOVA was used for the statistical review.

Results: The average age of the subjects in our research was 21.4 years, with the bulk of them falling into the 30–40 age range (31.3%), then 20–30–24.7 %, 40–50 %, 10–20 %, 50–60 %, and >60 %. Men subjects made up 72.7% of the total, with women subjects making up 27.3%. 41.3% of the subjects had Patchy Single, which was the most frequent condition. Patchy Multiple was next with 27.3%, Ophiasis was 10.7%, Sisaphio was 8%, Reticulate was 6%, Diffuse was 4%, Alopecia totalis was 2.7%, and Alopecia universalis was 1.3%. Average Yellow Dots every Visual Field based on Alopecia-areata Universalis Type The results showed a strong correlation between the illness activity and the following: was 54.2 ± 12.4 , Ophiasis was 19.4 ± 9.2 , Diffuse - 13.2 ± 9.4 , Totalis- 10.2 ± 7.4 , Patchy, localized- 3.1 ± 2.2 , Patchy, multiple- 2.2 ± 1.1 .

Conclusion: Our research indicates that the majority of subjects had Patchy Single type AA, and that the type of Alopecia-areata was substantially connected with the average quantity of yellow dots every field of vision.

Key Words: Alopecia-areata (AA), Dermoscopic findings, Alopecia totalis.

INTRODUCTION

Alopecia areata is a frequent auto-immune ailment that leads to hair loss on the scalp and sometimes other members of the body¹. Here are some general statistics about alopecia areata worldwide. Alopecia areata leads to approximately 2% of the inhabitants globally at some point in their lives. It can occur in both men and women of all ages and ethnicities. Alopecia areata often begins in childhood or adolescence, but can occur at any age²⁻⁵. It leads to both men and women equally. It is found worldwide and does not show significant variation in prevalence across different regions⁶. While not life-threatening, alopecia areata can have significant psychological and emotional effects due to its visible nature. Individuals with alopecia areata may experience anxiety, depression, and a negative impression on their

quality of life⁷. Alopecia areata is related with other auto-immune ailments such as thyroid disease, vitiligo, and lupus. There is no known cure for alopecia areata, but various treatments, including corticosteroids, topical treatments, and immunotherapy, can help promote hair regrowth in some cases. It's important to note that statistics can vary slightly depending on the source and methodology of studies⁸. However, the figures above provide a general overview of the prevalence and impression of alopecia areata on a global scale. Alopecia-areata (AA) is a frequent non-scarring alopecia influencing the body and/or scalp that is defined by hair loss in the absence of clinically discernible inflammation^{9,10}. This type of hair loss is among the most prevalent ones that dermatologists see, making for 25% of all instances of alopecia.

Cornelius Celsus wrote the first description of it, and Sauvages first used the word AA in 1760.

Aims and Objectives: to use dermoscopic results to research disease activity and graveness in Alopecia-areata subjects.

MATERIAL AND METHODS

300 subjects participated in a two-year cross-sectional research on skin, venereology, and leprology at a medical institute in central India with institutional ethical authorization. All subjects provided written and informed consent. Every AA subject with dermoscopic findings who visited the department of skin, venereology, and leprology, regardless of age group (men or women), and who was ready to participate after providing written informed

consent were included in the research. subject suffering from other illnesses. Subjects who declined to take part in the research were not included in the research. Digital camera was employed for dermoscopic investigation using the 20X magnification portable dermoscope (Heine delta 20). The most frequent dermoscopic observations were taeverying hairs, short vellus hairs, damaged hairs, and yellow or black spots.

Photographic documentation of dermoscopic results will be used to diagnose Alopecia-areata; however, yellow dots were mainly related with disease activity and were therefore taken into consideration for this research.

RESULTS

Table 1: Organization of the subjects as per the age

Age	No.	Percent(%)
<10	12	4%
10-20	32	10.7%
20-30	74	24.7%
30-40	94	31.3%
40-50	56	18.7%
50-60	24	8%
>60	8	2.7%
Total	300	100%

The average age of the subjects in our research was 21.4 years, with the bulk of them falling into the 30–40 age range (31.3%), then 20–30–24.7 %, 40–50 %, 10–20 %, 50–60 %, and >60 %. Men subjects made up 72.7% of the total, with women subjects making up 27.3%.

Table 2: Organization as per the Clinical categories of Alopecia-areata

Clinical categories	No.	Percent(%)
Patchy		
Single	124	41.3%
Multiple	82	27.3%
Ophiasis	32	10.7%
Sisaphio	24	8%
Reticulate	18	6%
Diffuse	10	4%
Alopecia totalis	6	2.7%
Alopecia universalis	4	1%
Total	300	100%

41.3% of the subjects had Patchy Single, which was the most frequent condition. Patchy Multiple was next with 27.3%, Ophiasis was 10.7%, Sisaphio was 8%, Reticulate was 6%, Diffuse was 4%, Alopecia totalis was 2.7%, and Alopecia universalis was 1.3%.

Table 3: A Research Average Yellow Dots every Field of Vision according to the type of Alopecia-areata

Categories of Alopecia-areata	Average \pm SD
Universalis	54.2 \pm 12.4
Ophiasis	19.4 \pm 9.2
Diffuse	13.2 \pm 9.4
Totalis	10.2 \pm 7.4
Patchy, localized	3.1 \pm 2.2
Patchy, multiple	2.2 \pm 1.1

Average Yellow Spots every Visual Field based on Alopecia-areata Universalis Type. The results showed a strong correlation between the illness activity and the following: was 54.2 \pm 12.4, Ophiasis was 19.4 \pm 9.2, Diffuse - 13.2 \pm 9.4, Totalis - 10.2 \pm 7.4, Patchy, localized - 3.1 \pm 2.2, Patchy, multiple - 2.2 \pm 1.1.

DISCUSSION

The normal design of hair loss, which is corroborated by the presence of distinctive exclamation mark hair in microscopy, is generally used to make the clinical detection of AA¹¹. However, there are situations when the clinical detection may not be clear-cut. In these situations, intrusive (punch biopsy) procedures may be necessary, which are typically met with resistance from subjects, particularly young ones. Alopecia-areata incognita, another name for acute diffuse AA, manifests similarly to acute telogen effluvium, which makes detection extremely challenging. The non-invasive technique known as dermoscopy was first employed to evaluate pigmented lesions¹².

Alopecia totalis, alopecia universalis, ophiasis, ophiasis vs (sisaphio), and patchy alopecia are some of the clinical manifestations of the condition. Acute diffuse and complete alopecia of the women scalp is a new subtype of AA that is distinguished by a favourable prognosis, a marked women predominance, and a quick progression of diffuse alopecia of the women scalp. The average age of the participants in our research was 21.4 years, which is in line with earlier research findings^{13,14}.

The age range of 30–40, representing 31.3% of the total subjects, was followed by 20–30–24.7%, 40–50, 18.7%, 10–20, 10.7%, 50–60, 8%, and >60, 2.7%. Men subjects made up 72.7% of the total, with women subjects making up 27.3%. Patchy Single, or 41.3% of the subjects, was the most frequent, followed by Patchy Multiple (27.3%), Ophiasis (10.7%),

Sisaphio (8%), Reticulate (6%), Diffuse (4%), Alopecia totalis (2.7%), and Alopecia universalis (1.3%). This was similarly comparable to Patchy alopecia was similarly shown to be the most prevalent design in the studies of Inui et al. and Mane et al., comprising 46.7% and 87.7% of subjects, respectively¹⁵.

Average Yellow Dots every Visual Field based on Alopecia-areata Universalis Type The results showed a strong correlation between the illness activity and the following: was 54.2 \pm 12.4, Ophiasis was 19.4 \pm 9.2, Diffuse - 13.2 \pm 9.4, Totalis - 10.2 \pm 7.4, Patchy, localized - 3.1 \pm 2.2, Patchy, multiple - 2.2 \pm 1.1. These results are in line with a research by Nishant Ghodake Bapu et al., which demonstrated a substantial association between the graveness of the disease and YD/FOV. In order to subclassify AA according to the degree and kind of involvement, as well as to act as a prognostic marker, dermoscopic assessment for the quantity of YD/FOV may be included in the evaluation of AA¹⁶.

YDs are an effective new diagnostic tool for hair loss ailments that were first suggested by Ross et al. A recognizable array of spherical, polycyclic, uniformly colored, yellow to yellow-pink dots varies in size to identify Yellow Deer Diseases (YDs). They show sebum and keratinous material-filled follicular infundibulum distention. Degenerating follicular keratinocytes in AA most likely make up the majority of the YD^{17,18}.

CONCLUSION

Our investigation has led us to the conclusion that the majority of subjects had Patchy Single type AA, and that the average quantity of yellow dots every field of vision corresponded substantially with the type of Alopecia-areata and its activity.

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