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RESEARCH ARTICLE

TRICHOSCOPY IN ALOPECIA AREATA : A SUPER TOOL FOR DIAGNOSIS

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Abstract

Objective : Alopecia areata (AA) is a non-scarring form of hair loss¹. Trichoscopy is the study of hair conditions by the use of magnified light sources². Trichoscopy aids in confirmatory diagnosis of Alopecia areata. Objective of our study is to present various presentations of alopecia in trichoscopy.

Methods : 50 patients with Alopecia areata were included in the study. DermLite 4 Dermoscope (10X magnifications) with polarised light was employed in the study.

Abstract : A Case study of 50 patients both female and male clinically diagnosed with Alopecia areata has been studied to evaluate the trichoscopic findings specific to Alopecia areata and make a final diagnosis.

Results : A total of 50 patients were evaluated and trichoscopic findings of white dots were seen in 45 patients (i.e.90%), black dots in 40 patients (i.e.80%), yellow dots in 25 patients (i.e.50%), broken hairs in 20 patients (i.e.40%), white hairs in 15 patients (i.e.30%), short vellus hairs in 10 patients (i.e.20%), exclamation marks 10 patients (i.e.20%), circle hairs in 6 patients (i.e.12%), tapering hairs in 5 patients (i.e.10%).

Conclusion : Trichoscopy evaluates specific patterns in Alopecia areata to identify disease activity and severity of disease. It helps avoid invasive methods to diagnose & is also cost effective.

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Introduction:-

Alopecia areata is a common non scarring dermatological condition that can affect the scalp and other hair bearing sites of the body¹. It is a hair specific autoimmune disease with genetic factors involved in disease susceptibility and severity³. These are challenges in clinical diagnosis due to multiple dermatology diseases that can mimic Alopecia areata so a trichoscopy can be beneficial. Trichoscopy is the study of hair conditions by the use of magnified light sources². Trichoscopy evaluates specific patterns in Alopecia areata to identify activity and severity of disease such as black dots, broken hairs, yellow dots, short vellus hairs, micro-exclamation mark hairs, circle hair, tapering hairs, white dots, white hairs etc.

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Materials and Methods:-

This study was conducted in department of dermatology in Bhaskar medical college, Moinabad , Ranga Reddy district, Telangana state from January 2022 to June 2022. It was a cross sectional study.

Informed consent was taken from the patients, the institutional ethical clearance was obtained for the same. DermLite 4 Dermoscope (10X magnification) with polarised light was employed in the study. iPhone 8 Plus was attached to save the images. Data collected was analysed and tabulated in Microsoft excel sheet. The results are presented in proportions and percentages.

Results:-

Total 50 patients were included in the study with 36 male and 14 female patients. The mean age of the patients was 32 years, youngest being 5 years& oldest being 52 years.

The mean duration of Alopecia areata was 12 months (shortest being one month and longest being 24 months).

Patchy Alopecia with single patch was present in 35 patients (70%) multiple patches were observed in 15 patients (30%).

White dots (fig.1), Black dots (fig.2), Broken hairs and Circle hairs (fig.3), White hairs (fig.4) with proportion being 90%, 80%, 40%, 12%, 30% of patients respectively.

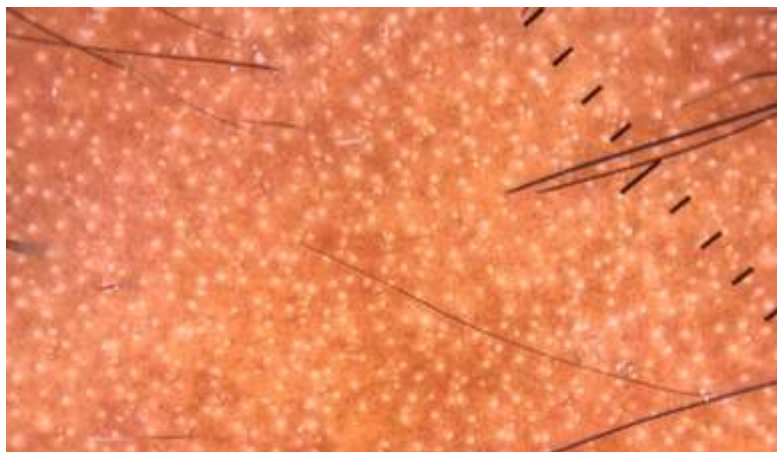


Fig.1:-Image showing white dots.



Fig.2:-Image showing black dots.



Fig. 3:- Image showing broken hairs (red arrow) and circle hairs (blue arrow).

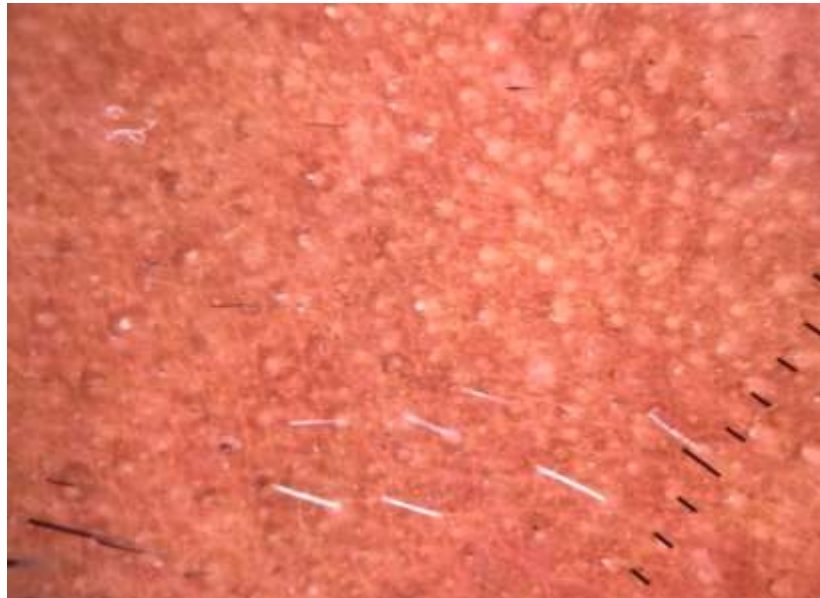


Fig.4:- Image showing white hairs.

Discussion:-

Our study was focused on various patterns in Alopecia areata. It revealed yellow dots which are yellow in colour, round or polycyclic dots representing distended follicular infundibulum consisting of degenerating keratinocytes and sebum in about 50% of patients. Yellow dots were initially proposed by Ross et al.,⁴. The other significant finding of Alopecia areata seen through trichoscopy are black dots. Black dots are pigmented points and they represent fractured hairs at level of skin surface. Formerly known as “cadaverized hairs”. Black dots are not appreciated well in patients with fairer skin due hair color and resistance of cuticle⁵. Our study revealed more number of black dots i.e. in 80% of patients. This may be due to use of advanced trichoscope compared to other studies already published and thus black dots are well appreciated. Along with these findings our study also revealed white dots, broken hairs, circle hair.

White dots are pinpoint hypopigmented spots, they represent eccrine duct openings and are regularly arranged⁹. 90% of our cases presented the finding white dots. In our study sensitivity of each feature was not measured. Yellow dots

appeared whitish rather than yellow in our patients, possibly due to a decreased appreciation of the yellow hue on a dark scalp⁷.

Broken hair is considered sign of active disease and commonly seen in severe cases⁸. In our study 40% cases have presented with broken hairs. As our sample is only 50, due to limitations we have got the more number of active cases.

In the largest trichoscopic study of 300 Asian patients with Alopecia areata published by Inui et al.,⁶ black dots, yellow dots and short vellus hair correlated with severity of disease while black dots, tapering hair, broken hair and short vellus hair correlated with disease activity. They noted that yellow dots and short vellus hair were the most sensitive diagnostic markers whereas black dots, tapering hair and broken hair were the most specific markers. Relevance of trichoscopy in the differential diagnosis of Alopecia: A cross sectional study from north india⁷ showed similar results.

The unusual pattern we noticed in our study was white hairs noted in 30% due to overnight whitening of the hair.

Furthermore, studies on Alopecia areata are large sample sizes recommended to evaluate these patterns.

Conclusion:-

Trichoscopy is the dermoscopic evaluation performed with help of dermatoscope on the hair. It is an advanced, super tool for non invasive method of diagnosis. It helps evaluating specific patterns in Alopecia areata to identify activity and severity of the disease. It helps avoid invasive methods like biopsy, histopathological evaluation to diagnose. Yellow dots and black dots were observed in every stage of Alopecia areata. Broken hairs represent the active stage of the disease. White dots are observed in almost every case may be due to hyperactivity of eccrine glands.

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