Role of Clip Lens as a Hair Assessment Tool

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ABSTRACT

Various hair assessment tools are available in the medical fields for assessment and follow up for treatment of alopecia. Most of the hair assessment tools are time consuming and not available at many centres. In this report, we describe the role of magnifying universal clip lens in the process of hair assessment

Keywords: Clip Lens; Hair Assessment; Tool; Alopecia.

INTRODUCTION

Alopecia is a common condition. The counting of hair to evaluate the severity of alopecia is essential. The three step approach to hair loss patient assessment includes a detailed history, clinical examination and investigations. Hair evaluation methods are grouped into Non-invasive methods, Semi-invasive methods and Invasive methods.[1,2] This article highlights the role of clip lens in taking photographs for the hair assessment.

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Materials and Methods

This study was done in the department of plastic surgery. Informed consent obtained from the patient. The patient coming to plastic surgery department with complains of alopecia are evaluated with history, clinical examination and investigation. In the process of evaluation, we have used photographic documentation for the scalp showing hair density, quality of hair and scalp quality. The video dermoscopy was usually done to assess the hair quality and taking in our hospital. The accessibility of the video dermoscopy and other technologies for hair assessments are not available in all centres. The hair assessment and photographs are taken in the outpatient department with the help of the magnifying clip lens attached to the camera of the mobile phone. This magnifying clip lens can be attached to any camera phone.(Fig. 1) The usage of this clip lens is very simple. The cost of the clip lens is 700 Indian rupees. The hair region where the photo to be taken is marked with the skin marker with 1*1 cm square box and followed by photos

are taken and stored.(Fig. 2) The hair density in that region will be counted manually and can be used as a reference point for the hair assessment during the treatment period.

Results

The magnifying universal clip lens is very easy to use without any cumber some technology. The patient was very comfortable with the procedure. The magnifying clip lens usage is checked successfully as a hair assessment tool.

Discussion

The three main hair assessment methods in alopecia are Non-invasive (questionnaire, daily hair counts, standardized wash test, 60s hair count, global pictures, dermoscopy, hair weight, contrasting felt examination, phototrichogram, Tricho Scan), semi-invasive

Fig. 1: Magnifying clip lens with mobile phone

(trichogram and unit area trichogram), and intrusive procedures (e.g., scalp biopsy).[3-5] No method is ideal or realistic. These are useful for patient diagnosis and monitoring when interpreted carefully. Daily hair counts, wash tests, etc. are good ways to evaluate a patient's shedding. Hair clinics use procedures like global photography. Phototrichogram is exclusively used in clinical trials. The procedures like scalp biopsy require processing and interpretation expertise.[6]

The questionnaire consists of a set of questions for patient self-assessment, which have been shortlisted and psychometrically evaluated for validity. Daily scalp hair counts can be useful to the physician to help quantify how much the patient is losing and make sure that this is not more than the physiologic hair loss.[7] It is said that it is normal to loosen up to 100 hairs per day. Patients are instructed to collect hairs shed in one day, count them and place them in plastic bags. All shed hairs in the shower or sink or on the brush are collected. Daily hair counts for 7 days are maintained.[8] Unlike the conventional handheld dermoscope, videodermoscopy permits rapid, high-resolution viewing at several magnifications (up to×1000 with advanced models), together with the ability to capture the viewed images digitally and to store them for later use. Images can usually be obtained with this system at 20×–70×magnifications. Dermoscopy and videodermoscopy have a role in the diagnostic assessment of scalp and hair disorders.[9] Information may be used in conjunction with clinical and pathologic data to render a more accurate diagnosis. The global photography helps in getting the idea of overall hair pattern of the individual. TrichoScan can
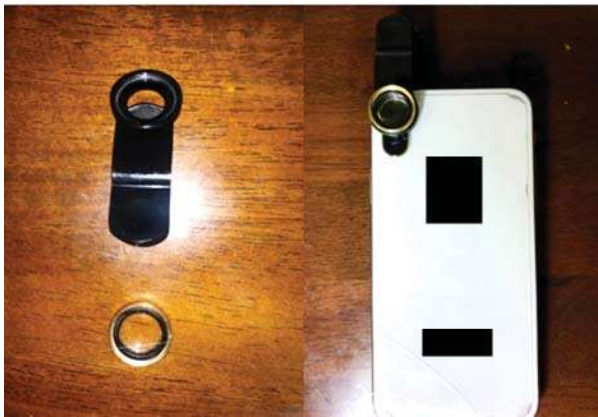

Fig. 2: Alopecia photography done with mobile camera with magnifying clip lens

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be viewed as a modification of the classical trichogram. It combines standard epiluminescence microscopy with automatic digital image analysis for the measurement of human hair. The software quantifies the number of hairs and the anagen-telogen ratio within one operation. The use of TrichoScan initially involves shaving a scalp area (approx. 1.8 cm^2). After 3 days, hairs in the shaven area are dyed and a digital photograph is taken at 20-fold magnification and saved.[10,11] The TrichoScan software works on the basis that telogen hairs do not grow. The software uses this as a basis for calculation of the anagen-telogen ratio. Thus, the basic procedure is quite similar to that of the classical phototrichogram. The claimed advantage of this procedure lies in its simple and speedy photographic processing and the painlessness of the procedure with the reproducibility of results.[12]

In our study we used Magnifying clip lens attached to the mobile camera for taking pictures of scalp under magnification as a hair assessment tool in the outpatient department and in the treatment protocol.

Conclusion

The magnifying clip lens is easily adaptable method by any physician all over the world as a hair assessment tool in dermatology. This can be employed in other dermatology problems for taking photographs. Large Volume studies are required for assessing its wide usage in the various indications.

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