RESEARCH PAPER | Medical Science | Volume : 3 | Issue : 9 | Sept 2013 | ISSN - 2249-555X

Non-Invasive Methods of Evaluation in Female Pattern Hair Loss : Common Problems in Clinical Practice

KEYWORDS: non-invasive evaluation, hair loss, androgenetic alopecia

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ABSTRACT *The majority of women with androgenic alopecia (AGA) have diffuse thinning on the crown area of the scalp. To establish a correct diagnosis and assessment of alopecia, the dermatologist uses different methods of hair evaluation: non-invasive, semi-invasive, invasive.*

Our paper aimed at: describing the current status of diagnosis and quantification of AGA from literature, offering feedback and outlining clinical approaches that are reliable in practice.

The study was performed on 84 women subjects with AGA. The patients were asked what procedure they would agree to perform. If they declined one type, we tried to find out the reason.

The best results were obtained by structured interview, hair pull test and dermoscopy, followed by global photographs and questionnaires.

There is a great need for reliable and minimally invasive methods of measuring hair loss. Guidelines should be taken into consideration for making a standardized assessment of the patient with hair loss.

INTRODUCTION:

Androgenetic alopecia in women, also known as Female pattern hair loss (FPHL) is a common dermatological condition, found in patients of all ages. It is due to the action of androgens, male hormones that are typically present only in small amounts. Just like in men, in women suffering from female pattern baldness, the hormone DHT appears to be at least partially blamed for the miniaturization of hair follicles **[1].** The majority of women with androgenic alopecia have diffuse thinning on the crown area of the scalp.

Besides heredity and androgen implication, a variety of other factors appear to be involved in the physiopathology of the disease : ovarian cysts, pregnancy, menopause, taking high androgen index birth control pills, hypothyroidism. FPHL is often induced or exacerbated by conditions that can determine telogen effluvium : drugs, hormonal treatments, acute stressors, weight loss, partum **[2].**

The diagnosis of FPHL is usually confirmed by detailed medical history and physical examination (scalp aspect, hair loss pattern, dermatoscopy). Basic hair evaluation methods also include : the pull test and biopsy. The scalp biopsy is an important diagnostic tool (AGA patients have a specific pattern of histopathogical aspect), but most of the times it is not required **[3].**

In order to establish a correct diagnosis and assessment of alopecia, the dermatologist uses different methods of hair evaluation. There are three different categories : non invasive, semi-invasive (trichogram or UAT- unit area trichogram) and invasive methods (the biopsy) **[4].** Non invasive methods include : systemic evaluation of the patient through laboratory tests and other investigations, questionnaires, counting hair tests (daily hair counts, standardized wash test, 60-s hair count), the hair pull test, hair weight determination, densitometry or hair-check test, imaging tests (global photographs, dermoscopy, phototrichogram or TrichoScan, videodermoscopy, light microscopy and contrasting felt examination **[5].**

No matter which is selected, the result interpretation must be done cautiously to provide an accurate insight in the patient's type and stage of alopecia **[6].** The objective assessment of the above methods showed us that all have merits and demerits. For some, the disadvantages generate a lack of use in practice.

We also concluded that currently available tools are less than enough or ideal and thought it necessary to underline the need for reliable and minimally invasive methods in measuring hair loss. The assessments should be time efficient, be of great value for clinicians and present little limitation.

OBJECTIVE:

Our paper aimed at :

- describing the current status of diagnosis and quantification of AGA (FPHL) by reviewing the latest methods of hair loss and hair growth evaluation from literature.
- offering a feedback on the non-invasive tools used for clinical evaluation of AGA patients, both from the doctor's and the patient's point of view.
- outlining clinical approaches that are reliable in practice and well accepted by FPHL patients.

MATERIAL AND METHOD

Study design

The study was carried out from April 2012 to March 2013 in a Private Office of Dermato-Venerology Care, located in Cluj, Romania, following review and approval by the corresponding Ethics Committee of "Iuliu Hatieganu" University of Medicine and Pharmacy.

Study subjects

Inclusion criteria : women suffering from AGA grade I-1 to III or frontal pattern of hair loss according to Ludwig Scale, aged between 18-50 years old.

Exclusion criteria : patients aged outside the mentioned range, having other scalp disorders or infections, severe seborrheic dermatitis, scalp psoriasis, patients with therapy that can cause alopecia, women with underlying psychopathology or any general pre-existing medical illness: cancer, diabetes, stroke, liver insufficiency, hepatitis, HIV/AIDS.

92 women patients suffering from AGA grade I-1 to III or

Volume : 3 | Issue : 9 | Sept 2013 | ISSN - 2249-555X

frontal pattern of hair loss according to Ludwig Scale were recruited for the study. All the subjects were diagnosed on the basis of detailed medical history and physical examination (scalp aspect, hair loss pattern, dermoscopy assessment). Out of the total number, we selected only those who satisfied the inclusion criteria : 3 patients did not fulfill them and 5 subjects had at least one exclusion criteria. The study was performed on 84 women subjects.

Prior to participating in the study the patients signed a written informed consent. They received a list of noninvasive evaluation methods that can be used in AGA and extra explanations. Next, the patients were asked what procedure they would agree to perform. If they declined one type, we tried to find out the reason.

RESULTS:
For all the 84 patients in the study, we analyzed the use, efficiency and acceptability of the hair loss **questionnaire**.

Most of the patients were compliant with questionnaire completion : 94% of them accepted to complete it while 6% of all the female subjects refused to do it. They justified their refusal either by " lack of time" (60% cases, 3 out of 5 patients) or by lack of interest in answering in written form (40%, 2 out of 5 patients).

95% of the patients who completed the questionnaire declared it was easy to understand and complete. 5% of those who answered said they did not like this evaluation method because they felt: embarrassed in 1,25% of cases (1 patient out of 4) or stressed in 1,25% of cases (1 patient out of 4). Half of the females who completed the questionnaire but did not like it, reported that while doing it, they got depressed (2,5% , 2 patients out of 4).

Using a structured interview, we obtained a clinical history in detail, especially in women with menses disorder or important hair loss history. The complete information was obtained by target questions, regarding : family history, personal history, endocrine and gynecologic pathology. The family history of hair loss was a common fact for 57% of the AGA patients. At least one family member had the same problem : mother (29%), father (21%), both parents (3%), one of the grandparents (4% of the cases). Some of the women considered hormonal changes as possible causes of hair fall and incriminated pregnancy (7%) or antibaby pills intake (3,5 % cases). 11% of the patients had thyroid problems (hypothyroidism) and 7% of the women suffered from polychistic ovary syndrome.

All women answered the structured interview , 98,8% liked the idea and one patient (1,1%) considered it stressful .

Table 1.Number of patients who accepted the test and expressed their opinion afterwards

Test	accepted to do it		liked the idea		disliked the idea		embarasement		stressful		depressing	
	number	percentage	number	percentage	number	percentage	number	procent	number	procent	number	procent
questionnaire	79	94%	75	95%	4	5%	1	1,25%	1	1,25%	2	2,5%
structured interview	84	100%	83	98,8%	1	1,1%	0	0%	1	1,1%	0	0%
laboratory tests COMPLETE	30	35,7%	21	70%	9	30%	3	10%	6	20%	0	0%
BASIS	54	64,3%	44	81,5%	10	18,5%	2	3,7%	6	11,1%	2	3,7%
daily hair count	34	40,4%	5	15%	29	85%	8	23,5%	12	35,1%	9	26,4%
standardized wash test	9	10,8%	2	22,2%	7	77,8%	2	22,2%	3	33,3%	2	22,2%
hair pull test	84	100%	82	97,6%	2	2,4%	0	0%	0	0%	2	2,4%
hair weight determination	2	2,4%	0	0%	2	2,4%	1	1,2%	1	1,2%	0	0%
dermoscopy	84	100%	80	95,2%	4	4,8%	3	3,6%	0	0%	1	1,2%
global photographs	80	95,2%	78	92,8%	2	2,4%	1	1,2%	0	0%	1	1,2%
contrasting felt examination	not available											
videodermoscopy	not available											
phototrichogram	not available											
TrichoScan	not available											

Table 2.Number of patients who denied the test and expressed the reason why

test	Denied		Reson to deny									
			lack of money		lack of time		lack of interest/dete		Bad aspect of hair		cutting the hair	
	number	percentage	number	procent	number	procent	number	procent	number	procent	number	procent
questionnaire	5	6%	0	0%	3	60%	2	40%	0	0%	0	0%
structured interview	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
laboratory tests COMPLETE	54	64,3%	48	88,8%	2	3,7%	4	7,4%	0	0%	0	0%
BASIS	30	35,7%	26	86,6%	0	0	4	13,3%	0	0%	0	0%
daily hair count	50	59,5%	0	0%		55%		45%	0	0%	0	0%
standardized wash test	75	89,2%	0	0%	0	0%	7	9%	68	91%	0	0%
hair pull test	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
hair weight determination	82	97,6%	0	0%	0	0%	2	2,4%	30	35,7%	50	59,5%
dermoscopy	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
global photographs	4	4,8%	0	0%	0	0%	4	4,8%	0	0%	0	0%
contrasting felt examination	not available											
videodermoscopy	not available											
phototrichogram	not available											
TrichoScan	not available											

The systemic evaluation of the patient usually includes: **laboratory tests** and **diagnosis investigations.** In our study, the patients had to choose between basic and complete investigation. 54 patients (64,3%) accepted to perform the basic investigations for hormonal evaluation and screening tests for anemia:

- full blood count (CBC), serum iron
- sexual hormone levels (DHEAs, total and free testosterone, androstenedione, prolactin, follicular stimulating hormone, and leutinizing hormone)
- thyroid stimulating hormone (T3, T4, TSH)

44 females (81,5%) liked the idea of being well investigated. Out of the 30 patients who declined investigations, 26 patients (86,6%) incriminated lack of money and only 4 women (13,3%) lack of interest for performing the recommended tests.

Only 35,7% of the patients performed the complete investigation, which also included:

- low abdomen ecography for signs of polycystic ovary syndrome
- thyroid ecography and if needed scintigraphy

Volume : 3 | Issue : 9 | Sept 2013 | ISSN - 2249-555X

- dosage of vitamin D levels, serum ferritin or total iron binding capacity (TIBC) for anemia

21 females (70%) liked the idea of being well investigated. 30% of the patients complained of the high number of investigations they had to perform. Out of the 54 patients who declined investigations, 48, (88,8%) incriminated lack of money, 4 (7,4%) lack of interest and 2 (3,7%) lack of time to perform all the investigations recommended.

As the diagnosis of Androgenetic alopecia has been confirmed by the patients' history and evaluation, almost all the women refused to undergo the autoimmune screen. All patients refused VDRL testing, explaining they had done it on another occasion or they could not see a connection with the hair loss problem.

Counting hair tests (daily hair counts, standardized wash test, 60-s hair count) involved patience and a small amount of skills. 34 patients (40,4%) accepted to perform the daily hair count test, while 50 females (64,3%) declined this evaluation procedure. Most of the patients (85%, 29 out of 34 females) who performed it, disliked the test. They said it was hard to collect the hairs shed in one day and counting them was awful. 12 patients out of 29 (31,5%) said the evaluation method was stressful. Some of the subjects (26,4%) claimed they found **daily hair count** depressing. A similar number of patients (23,5%, 8 out of 29) said they found counting and placing the hairs in plastic bags embarrassing. For not performing the hair count, 55% of the women incriminated lack of time and 45% lack of interest or determination.

The **standardized wash test** was declined by 89,2% of the subjects. 68 out of 75 patients (91%) refused it for reasons of general appearance, a bad aspect of the scalp for five days. 9% of the patients who refused said they had no interest to do the test because as they had already noticed excessive shedding occurring. Most patients refused to bring the hair samples. Only 10,8 % subjects accepted the test conditions. 77,8 % of the patients who performed it said they completely disliked it. Out of this group of 7 women, 2 (22,2%) reported being embarrassed and other 2 (22,2%) blamed the test for getting depressed. 33,3% of the women in the same group said they found the standardized wash test stressful because of the collection conditions that had to fulfill.

We perfomed the **hair pull test** in all patients with hair loss problem. After being explained about the purpose and procedure the patients agreed to perform it. 97,6% of the patients did not dislike the test. Only 2,4% (2 women out of 84) said the result was depressing, as they saw more than 10 hairs falling during the test. The results of the test were positive for more than 70% study subjects. This was correlated with the patient's complaints (expressed in the questionnaire): hair loss in 36% of the cases, hair thinning 7%, both hair loss and thinning 43% . The loss of hair's properties, especially elasticity, influences alopecia. We also found out from the questionnaire that 50% of the patients harmed their hair by using chemical agents or thermal devices. Agents and devices change hair structure making it more friable and predisposed for falling.

The **hair weight determination** method encounters a big problem in clinical practice : the patients' refusal. Only 2 out of 84 patients (2,4%) accepted to perform the test and said they did not enjoy it. The women also considered it stressful and embarrassing (1,2%). 97,6% of the study patients refused the test for cosmetic reasons. Out of 82 patients, 59,5% refused it because it involved cutting the hair which "contributed" to a bad aspect of the hair and scalp. 35,7% said it affected their general appearance. 2,4% of the women stated they were not interested in the result of the test, therefore they didn't accept to perform it.

Imaging tests (global photographs, dermoscopy, phototrichogram or TrichoScan) were performed with good results. **Global photographs** were refused by 4,8% of all patients. These women declined doing it because they were concerned about their intimacy. Most of the patients (95,2%), accepted the test and 92,8% of the women who performed it said they liked it. An equal percentage , 2,4% of the patients who disliked the global photographs reported they felt embarrassed or stressed.

We performed **dermoscopy** in all the patients, because they were interested in this evaluation method. We also captured images, stored the photos and showed them to the patient. 80 patients (95,2%) out of 84 liked the test. 4 patients (4,8%) said they did not enjoy it, meaning they did not like the result, the image, not the procedure. 3,6% of the women said they were embarrassed by the aspect of their scalp and found it ugly, even repulsive. 1,2% of the patients who performed but did not like the dermoscopy test, reported the method was depressing.

Videodermoscopy or the **Trichoscan** are not available yet in our clinical center. We do not usually perform the **contrasting felt examination** test in our private practice because we can see the vellus hairs better by dermoscopy.

The best results were obtained by the structured interview , the hair pull test and dermoscopy, followed by the global photographs and the questionnaires.

DISCUSSION:

When assessing a patient suffering from AGA, three things need to be established : the cause of hair loss, if the hair density is decreased and if the shedding is abnormal. In our practice, we combine methods of evaluation, because just one method is not enough for a proper assessment, in our opinion. Also, our intention is to assess hair loss by using non invasive methods.

1. **Questionnaires** are subjective scoring systems, useful for overall assessment of hair loss, hair growth and response to therapy. Mainly used in clinical trials, they are underutilized in daily practice. A validated model is the Women's Hair Growth Questionnaire, including topics like : hair growth, amount of noticeable new hair, scalp visibility, hair loss rate **[7].** In 2012, we developed a new questionnaire to evaluate alopecia with 22 items concerning 5 topics: Demographic items, Illness specific data, Risk factors, Psychosocial consequences, Treatment. We found it useful in providing important information that otherwise could have been forgotten during a mere interview assessment.

The questionnaire also offers psychosocial information, showing the degree in which the disease influences female patients.

It is important to remember that the proper diagnosis of female hair loss usually starts with a process of elimination. All the battery of diagnostic tests should be performed when attempting to pinpoint the hair loss trigger.

2. Structured interview

Both questionnaires and interviews tend to find causes of alopecia : possible drug intake, taking or ceasing contraceptives intake (with androgenic progestins) hormonal treatments for menopause, weight loss diet, hair treatment with different agents or possible undetected illness. These triggers can induce or worsen androgenetic alopecia, and are common for telogen effluvium as well **[8].**

Proper counseling should be performed during the interview, to explain diagnosis, treatment options and therapy expectations. Experience taught us how important it is to know the psychological impact of alopecia and to provide proper psychological support. We encourage patients to start treatment

Volume : 3 | Issue : 9 | Sept 2013 | ISSN - 2249-555X

early and never interrupt a successful therapy.

3. Only some **laboratory tests and diagnosis investigations** are refunded by the national health program and patients have to pay the tests themselves in private investigation centers. Unfortunately, due to their financial status, not all patients could perform the indicated investigations.

In women with signs of hiperandrogenism, investigation of ovarian (Polycyistic ovary disease) or adrenal (late-onset congenital adrenal hyperplasia) disorders is required. The clinical examination should include scalp hair and body hair checking, if signs of hirsutism occur. We should check the signs of hiperandrogenism in premenopause women. Also, the presence of a relative androgen deficiency can be suspected if the patient suffers from: dysphoric mood, fatigue, reduced libido, insomnia, impaired cognition/memory **[9]**

4. **Counting hair tests** (daily hair counts, standardized wash test, 60-s hair count) represent the primary evaluation of the patient. They involve motivation, patience and a small amount of skills. One of the biggest problems is that they do not offer an objective evaluation. Besides being time consuming, they are not precise, providing only approximate values. 55

D**aily hair count** involves collecting the hairs shed in one day, counting and placing them into plastic bags. Sometimes, counting tests are performed by female patients without a prior indication from the doctor. Patients notice that more hairs are left on the brush, comb, pillow, floor, in the sink or washing tub. When hair shedding is increased, they become anxious and start counting the hairs. If 80-100 hairs are lost, patients usually come to the doctor's office and complain about the hair loss problem.

Literature reports that shedding of more than 100 hairs per day should involve microscopical assessment of the hair bulb and check of hair shaft abnormalities. The number of 100 is taken as a hair shedding reference, but no clinical study or standardized method has validated this quantity. A study done on normal females, without FPHL, revealed a mean hair loss rate between 25-35 hairs, while another publication said that the range goes up to 250 **[10, 11]**. Researchers stated that if the patient has already lost more than 50% of the hair, around 50 hairs /day it represents increased shedding **[12].** Findings from other studies tell us that this number will never apply globally to all the patients suffering from alopecia. This is why we suggest that more refined ways of assessing hair loss are needed.

The **standardized wash test** asks the patient to restrain from shampooing for 5 days, then wash the hair in a basin whose hole is covered by gauze. The patient must collect the hairs from the water and the gauze and take them to the doctor. The examination of hairs includes their separation upon length: under 3 and above 5cm. The purpose is to make the differential diagnosis between FPHL (58,9% vellus hair) and telogen effluvium (3,5%) **[13].** As the 3 cm length was considered to belong to telogen vellus hairs, another way to distinguish androgenetic alopecia was to find more than 10% telogen velus hairs in this test **[13].** The latest tendency in literature is to stop making the difference between the two, as they occur in a combined manner and the treatment is the same for both. AGA is often induced or exacerbated by conditions that can determine telogen 150 effluvium: drugs, hormonal treatments, acute stressors, weight loss, partum **[2].**

In practice, this test involved a bad self-hygiene in most patients suffering of seborheea (68%). The resulting bad aspect of the scalp interfered with the patients' QoL (general appearance, professional life and intimacy) in 82% of cases.

5. If patients refuse the counting test, we still have one option: **the hair pull test**. It is useful for assessing the severity and location of the hair shedding process. A gentle traction is performed on a group of hairs (around 50) on three different areas of the scalp. The hairs obtained are quantified and microscopically examined. The test is positive when 6 or more hairs are extracted from one area **[14].** A negative result (when 3 or less hairs appear) does not exclude a hair loss condition. In AGA patients, the **hair pull test** is not positive over the entire scalp, but mostly over the area of thinning.

The **hair pull test** is objective for the doctor, but unfortunately, not standardized, as the pulling force varies from one doctor to another. Also, the pulling force is not uniformly distributed from one hair to the other, generating unequal traction. There are situations in which negative tests didn't exclude the diagnosis.

The pull test is considered pathological if the hairs extracted are in anagen phase of the hair cycle **[15].** The microscopical examination allows assessing the hair roots (establishing if they are in anagen or telogen) and checking if dystrophies occur **[8].** The microscopic examination is not very useful in androgenetic alopecia as telogen roots (with club-shaped bulb aspect and absence of inner root sheath) are commonly seen in hair disorders **[12].**

The **hair weight determination** is a quantitative method that has been used in clinical trials. It involves the selection of a certain area, the hairs must be clipped at baseline, allowed to grow for a while, than clipped again, collected and weighed.

The hair weight determination method is not standardized and it is hard to control. Besides not being precise, the method encounters another problem : the patients ' declining. Several errors can occur, regarding : capturing and cutting all hairs from an area, the span of time allowed for hair growing which should be exactly the same [16,17]. We usually do not use this method in clinical practice. As they have less hair, females with AGA do not agree to have hairs clipped or cut from frontal areas.

6. The densitometry of hair involves the use of a densitometer. This is a handheld magnification device which is used to check for miniaturization of the hair shaft **[18].** In our practice instead of it, we use the Hair check device.

7. Contrasting felt examination is a test used for the recognition of short vellus hairs in female and male patients suffering from Androgenetic alopecia. An index card with black felt glue is used on one side and with white felt on the opposite side. Fine short miniature or broken hairs will project up along the edges of the felt when the index is held along a parting in the hair [4].

8. Imaging tests (global photographs, dermoscopy, phototrichogram or TrichoScan) are useful and reliable methods of assessing patients with hair loss problems. Differential diagnosis can be performed using imaging techniques. Their purpose is twofold : to diagnose the patient's disease and monitor the progression of hair loss. These objective assessment tools makes it easier to check the efficiency of treatment.

Global photographs are usually used in our practice for an objective evaluation of the treatment. Four standard views should be captured: vertex, midline, frontal and temporal. The Canfield technique uses a stereotactic position of the device and of the patient's chin and forehead and the same camera, magnification and lighting options **[19].** The technique needs several conditions to be fulfilled: same hair style and hair color and the doctor should perform the same hair parting each time. Global photography offers a precise appreciation of the hair growth effect induced by a treatment. Photos before and after treatment represent objective ways of assessment over a long period of time. In our clinical practice, patients with FPHL perform global photographs as part

Volume : 3 | Issue : 9 | Sept 2013 | ISSN - 2249-555X

of the basic assessment.

In spite of its advantages the imaging test is not without problems. Female patient suffering from alopecia do their best to hide the hair loss condition and they do it by changing hair style and color. We had patients who dyed their hair into brighter shades in order to hide the alopecic areas or to look they had more hairs. Other patients have cut their hair shorter to let the impression of more volume.

The global photography and the phototrichogram -based techniques are accompanied by digital image analysis. Phototrichogram and TrichoScan are not available in our hospital and are usually used during clinical trials. TrichoScan, a valuable method of quantifying hair loss is performed with informed consent at base visit and 12 months visit. It collects the following data : surface, hair number, hair density per square centimetre, anagen and telogen percentage, miniaturized hair density, terminal hair density and percentage of terminal and miniaturized hair **[9].**

For **dermoscopy,** the hair should be parted with a comb in different areas and checked also in the margins by using a dermatoscope. Pictures can be taken at every session for comparison. Dermoscopy is a fast and sure way to establish a hair loss diagnosis because it reveals features of a specific type of alopecia. In androgenetic alopecia, the fact that is patognomonic is the great variation of the hair diameter. Greater than 20% diversity in hair diameter has been discovered. The dermoscopy method also helps making the difference between the stages of alopecia. In early stages, a brown-depressed halo is observed at the follicular opening. In advanced stages, yellow dots can be noticed **[5].** As alopecia involves also exposing the scalp to the UVA and UVB spectrum, a honeycomb-pigmented pattern can appear in sun-exposed regions of the scalp.

Videodermoscopy has an important role in the assessment of scalp and hair disorders. The videodermoscopic aspects found in AGA patients are the following : hair caliber diversity (reflecting progressive miniaturization), brown halo (1mm diameter) at the follicular ostium around the emergent hair shaft, small areas of empty follicles (exogen) and scalp pigmentation after sun exposure **. Videodermoscopy** has great advantages : the ability to capture digital images in a high resolution and to rapidly store them for later comparison. The method allows an evaluation in detail as great magnificantions are available (up to x1000) **[20]** Videodermoscopy also serves as a step prior to performing biopsy. It can help the clinician find the right place to take the sample, thereby avoiding unnecessary biopsies.

Overall, there are many evaluation approaches for the hair loss patients. Unfortunately only some of them are useful and really help the diagnosis of the disease. An overview of the evaluation options and procedures is needed for the hair loss pathology in clinical practice.

If used correctly, assessment methods give good indices about the progression of the disease or reverse miniaturization of the hair follicles in patients with FAGA. Beside the diagnosis a precise classification and treatment evaluation is necessary.

CONCLUSION

1. There is a great need for reliable and minimally invasive methods of measuring hair loss.
2. The first step for a better assessment of hair loss is the improvement of currently available tools.
3. Good doctor-patient interaction is essential in establishing the best evaluation option. The method chosen must meet the needs of both the patient and the doctor.
4. Besides being reliable and non-invasive, the best hair loss evaluation method must spare time and be cost efficient.
5. The best results were obtained by the structured interview, the hair pull test and dermoscopy, followed by global photographs and questionnaires.
6. A proper counseling should be performed at the same time by explaining the diagnosis, course, treatment options and therapy expectations. Psychological support might also be necessary.
7. Guidelines should be taken into consideration for making a standardized assessment of the patient with hair loss problems.

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