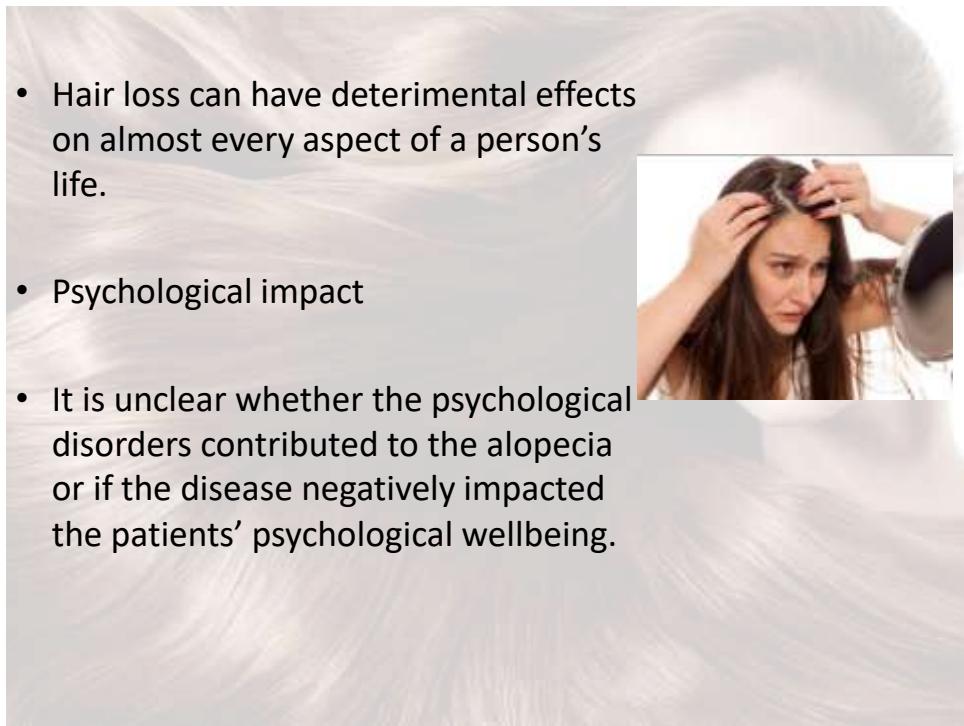


Eman Nabih Ramadan
Assisstant lecturer of Dermatology
and Andrology
Alexandria University

- Hair loss can have detrimental effects on almost every aspect of a person's life.
- Psychological impact
- It is unclear whether the psychological disorders contributed to the alopecia or if the disease negatively impacted the patients' psychological wellbeing.





British Association of Dermatologists' guidelines for the management of alopecia areata 2012

9.3 Wigs and prostheses (*level of evidence 4*)

Coping with the impact of alopecia areata depends on the individual's ability to deal with an altered body appearance and their

Wigs

For many female patients with extensive alopecia areata a wig or hairpiece is the most effective solution.⁵⁹ Some men also request a wig although male wigs rarely appear as natural. Acrylic wigs are much cheaper than real hair wigs and are easier to look after. However, some patients prefer bespoke real hair wigs, mainly because the better fit allows a wider range of social activities. National Health Service (NHS) charges for wigs are laid out in NHS leaflet HC12 (currently £50·70 for an acrylic wig and £195·40 for a bespoke human hair wig). Information on entitlement to free wigs is given in leaflet HC11.

A mixed methods survey of social anxiety, anxiety, depression and wig use in alopecia

Kerry Montgomery,¹ Caroline White,² Andrew Thompson¹

Overall, 46.6% of participants reported that wearing a wig had a positive impact on their everyday life, reducing the likelihood of negative reactions while improving confidence with regards to appearance.

Participants also reported problems with wigs that had a negative impact on everyday life (49%; subthemes included: wigs coming off, expense, quality and fitting).



When to recommend camouflage ?



✓ The main treatment

- Resistant ,non responsive cases of alopecia areata (totalis, universalis, ophiasis)
- Cancer patients with anagen effluvium during chemotherapy
- Advanced cases of AGA ,FPHL .
- Cicatrical alopecia with different types

✓ Together with medical treatment (for any cause of hair fall)

Camouflage options

- Full or partial wigs
- Hair extensions
- Pigmented hair fibers
- Concealing powders and sprays
- **Surgical methods**
 - surgical tattoos
 - hair transplants
 - Artificial hair implants ?!

Wigs



- Wigs can be made either **from synthetic or real human hair**.
- Standard, inexpensive wigs worn daily need to be replaced every 3 to 6 months.
- High quality human hair wigs can last 3 to 4 years.
- An option for patients with hair thinning is **integration wigs**.
The individual's hair may be pulled through perforations in the wig to incorporate wig and original hair.



Natural human hair wigs

Advantages:

- Natural appearance because of use of real human hair fibers
- May be styled as natural hair
- Less susceptible to heat damage
- Able to color and perm
- Moves like natural hair

Synthetic hair wigs

Disadvantages

- Not able to color or perm like human hair
- More susceptible to heat damage
- May have less natural appearance, movement, and feel
- Needs to be replaced more frequently than human hair wigs



Natural human hair wigs

• Disadvantages:

- More expensive
- Needs more maintenance and care
- Requires styling
- More susceptible to sunlight fading and environmental damage
- May be heavier in weight than synthetic wigs, which may lead to itching

Synthetic hair wigs

Advantages:

- Less expensive
- Easy daily maintenance
- Less susceptible to fading in sunlight
- May be lighter in weight than wigs with human hair

- Bonding and taping may be used for attachment but may lead to **contact dermatitis**, especially from wig adhesives such as acrylates .



Fig. 1. (a) Alopecia due to adhesive tape used over the eyelash area on a toupee-wearer.

Hair extensions

- Patients with **patchy hair loss** may prefer the addition of volume with hair extensions
- Hair extensions are strands of synthetic or human hair that are attached to existing hair fibers by means of glue, braids or clips.
- However, hair extensions may make alopecia **worse because of traction.**



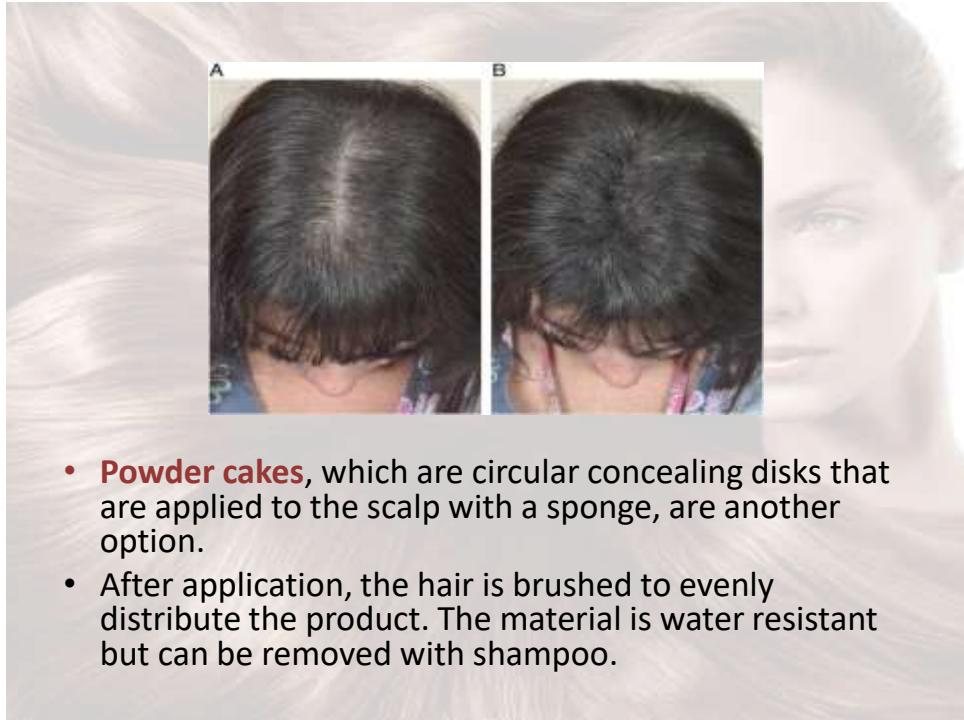
Pigmented hair fibers



- positively charged particles of topical hair fiber bind to the negatively charged terminal and vellus hair fibers on the scalp
- This product requires existing hairs to bind; therefore, this option is ineffective in bald areas scalp.



Topical hair fibers are derived from wool or rice keratin, or human hair and must be applied daily.



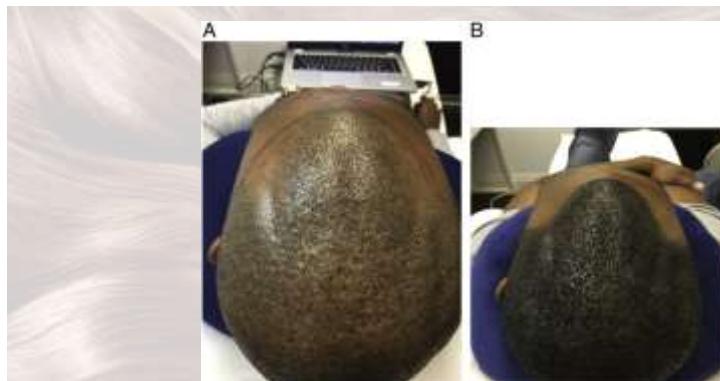
- **Powder cakes**, which are circular concealing disks that are applied to the scalp with a sponge, are another option.
- After application, the hair is brushed to evenly distribute the product. The material is water resistant but can be removed with shampoo.



- **Disadvantages** of these products include the need for daily application .
- the fact that water activities may distort the product.

Surgical methods

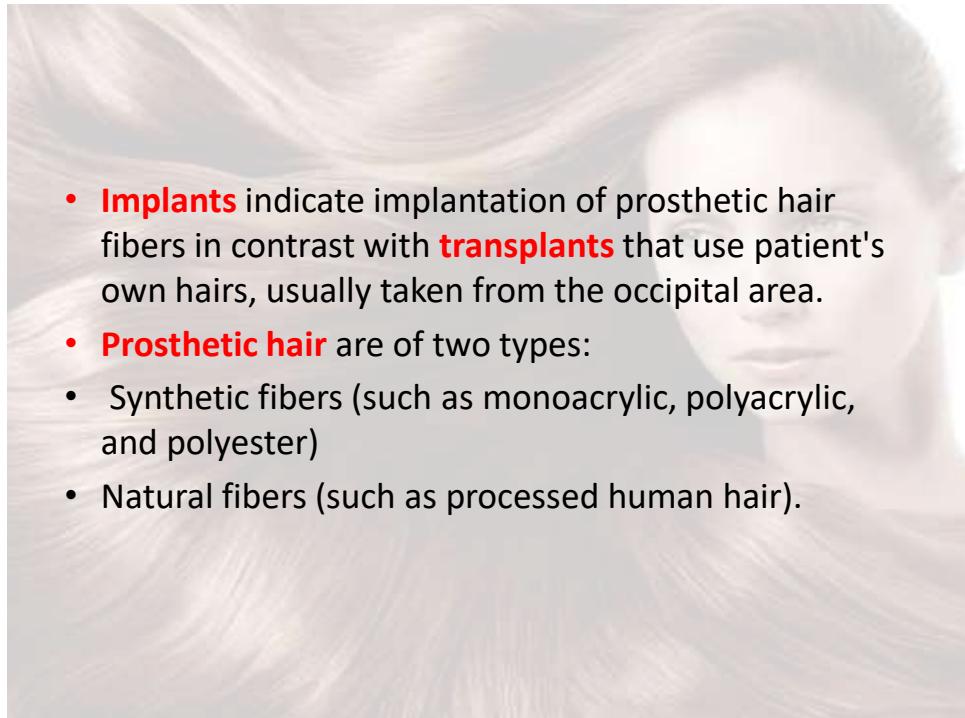
- More permanent options for alopecia include :
- **surgical hair transplants** in which hairs are harvested from thicker donor areas on the back of the scalp and implanted in the necessary areas
- **Micropigmentation**
- **Artificial hair implantation**



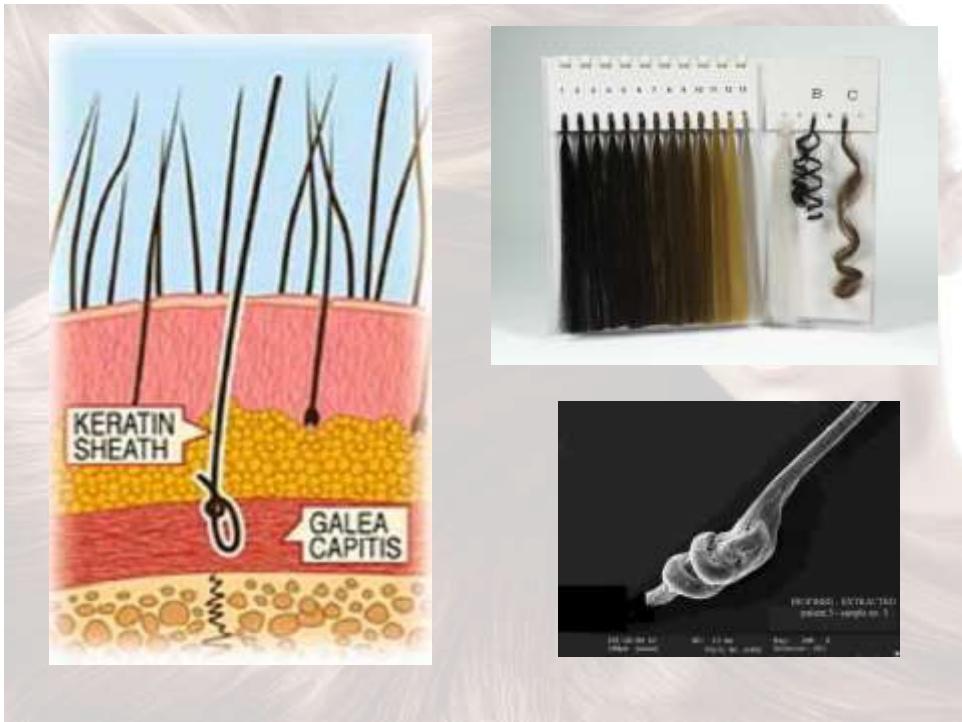
- **Micropigmentation** describe the medical use of tattooing, specifically in **alopecia areata of the eyebrows, scalp scars.**
- **Risks** include infection and allergies to pigment. Needle use carries a risk of infectious disease transmission, such as HIV, hepatitis, and skin infections.



Is an
artificial
hair transplant
possible?



- **Implants** indicate implantation of prosthetic hair fibers in contrast with **transplants** that use patient's own hairs, usually taken from the occipital area.
- **Prosthetic hair** are of two types:
- Synthetic fibers (such as monoacrylic, polyacrylic, and polyester)
- Natural fibers (such as processed human hair).

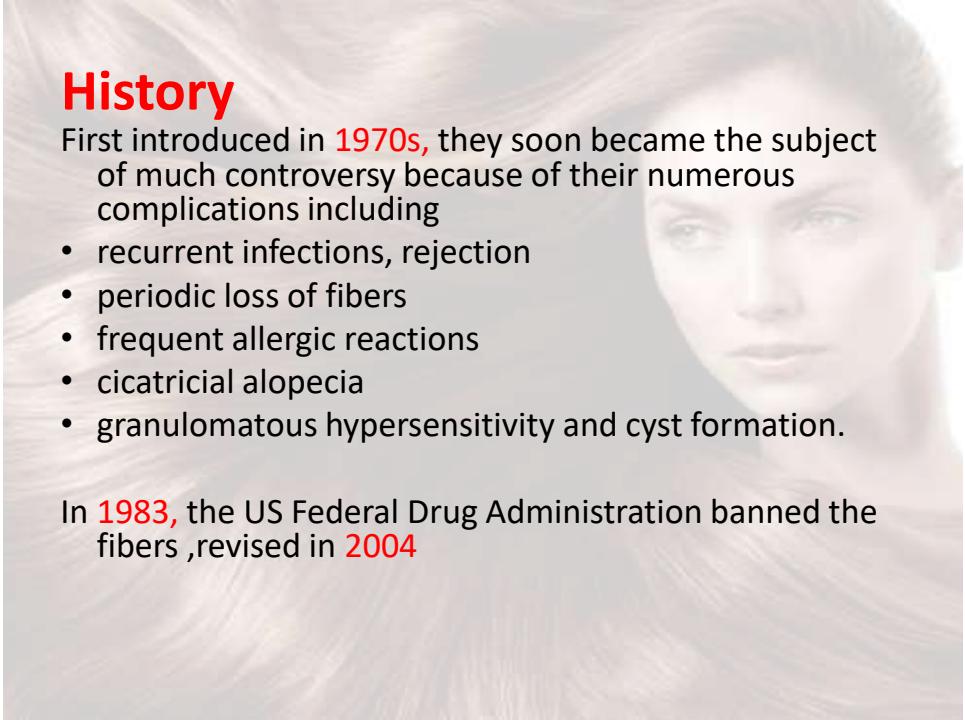


The advantages claimed

- the relative ease of the procedure
- relatively bloodless technique
- immediate cosmetic result
- No donor area

Disadvantage :

- in contrast to transplants, these fibers do not grow and hence cannot be cut or shaven-in so resemble a fixed wig.



History

First introduced in **1970s**, they soon became the subject of much controversy because of their numerous complications including

- recurrent infections, rejection
- periodic loss of fibers
- frequent allergic reactions
- cicatricial alopecia
- granulomatous hypersensitivity and cyst formation.

In **1983**, the US Federal Drug Administration banned the fibers ,revised in **2004**



Reintroduction of hair implants

- Though the ban by FDA is yet to be lifted, the manufacturers are now trying to re-establish the credibility of these fibers and have introduced them in Europe and Australia.
- Presently, there are two manufacturers:
 - (a) Medicap (Italy), which manufactures Biofibre, which has been available since 1996
 - (b) Nido Corporation (Japan), whose fibers are available since 1999.

- From 2000's many cases of **patients treated by artificial hair implant** were worldwide presented to the scientific community **getting favorable outcome** and interest also for USA doctors.
- On 2007, a study about the use of Biofibre® hair implant to treat **scalp scars** was published as an additional indication for this technique.
- In 2011, Biofibre® hair implant was included in an **academic text** of cosmetic dermatology at the **World Congress of Cosmetic Dermatology** (WCOCD).
- In 2013, the first Automatic machine for Biofibre® hair implant was presented by Medicap Italy
- In 2014 was released the **new high-density version of Biofibre®**, named as MHD® hair, which allows triple hair quantity with the same number of implants.
- Recent PubMed publications bring additional evidence of the reliability of the present artificial hair implant technique.



Modern artificial hair implantation: a pilot study of 10 patients

Manjul Agrawal, MD

Sham Nath Marg, Civil Lines, Delhi, India

© 2008 Wiley Periodicals, Inc. • *Journal of Cosmetic Dermatology*, 7, 315–323

Methods Ten healthy adults with androgenetic alopecia who had failed prior conventional therapies were implanted with copolyamide fiber and were followed for a minimum of 3 years. Implantation consisted of 100 test fibers followed by subsequent sessions of up to 500 fibers every 4–6 weeks to achieve a density of 20–40 fibers per cm². Implantation techniques and follow-ups maintained a strict adherence to schedule.

Results A total of 10 000 fibers were implanted with a mean of 1000 fibers per patient. With the exception of one patient, implantation was found to be safe, aesthetically pleasing, and psychologically rewarding to its recipients. Sebum deposition and temporary pitting at entry point of most fibers were universal. Recurrent mild folliculitis occurred in 30% of patients. Facial swelling, cellulitis, and severe scarring were absent. Annual fiber fall rate was 15–20%.

Conclusion Choice of fiber, implantation technique, and mandatory follow-up were deemed to be some of the important contributory factors towards our positive results.



Figure 5 Foreign body reaction at test implantation site in patient no. 6.



Figure 6 Comedones surrounding the entry points of fibers. These comedones look darker because of sebum application.



Figure 7 Pustules at the bases of some implanted fibers in patient no. 2.



Figure 9 Pits at the entry point of fibers.



Artificial Hair: By the Dawn to Automatic Biofibre® Hair Implant

Maria Roccia¹, Katilein França², David Castillo², Georgi Tchemev^{3,4}, Uwe Wolina⁵, Michael Tiran⁶, Yan Valle⁷, Claudio Guameri⁸, Massimo Fioranelli^{9,10}, Torello Lotti¹¹

ID Design Press, Skopje, Republic of Macedonia
Open Access Macedonian Journal of Medical Sciences.
Special Issue: Global Dermatology-2
<https://doi.org/10.3889/oamjms.2018.001>
eISSN: 1857-9655
Review Article

technical changes, which made this technique safe and effective. Biofibre® Hair Implant is a soft surgery technique, performed under local anaesthesia by a manual implanter or by an automatic machine with certified medical fibres. This technique allows immediate aesthetic result, without patient downtime and with relevant psychological comfort for the patient. It can be considered an efficient hair restoration technique for male and female patients

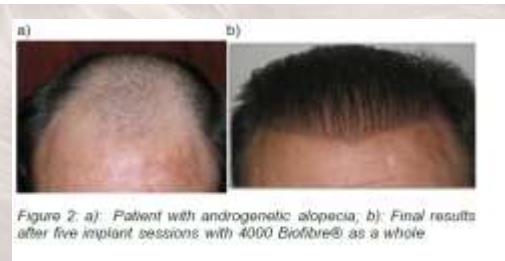


Figure 2: a): Patient with androgenetic alopecia; b): Final results after five implant sessions with 4000 Biofibre® as a whole



Figure 3: A 53 years old woman with chronic telogen effluvium (upper left); Final results after three implant sessions with 2000 Biofibre® as a whole (upper right, down)



Figure 4: Patient with two frontal scars (upper). Final result after six implant sessions with 1500 Biofibre® as a whole (down)

Automatic Artificial Hair Implant: Safety and Efficacy in Androgenetic Alopecia. A Prospective Study with a Highly Biocompatible Fiber

ID Design Press, Skopje, Republic of Macedonia
Open Access Macedonian Journal of Medical Sciences. 2016 Jan 25; 6(1):38-42.

Abstract

AIM: A multi - centre two years the long prospective open clinical study was conducted in five countries located in four different continents from May 2015 to evaluate the clinical safety and efficacy of Automatic Biofibre hair implant in male and female androgenetic alopecia. Biofibre® is a CE/TGA certified medical grade polyamide fibre suitable for implantation.

MATERIAL AND METHODS: A total of 213 patients were enrolled in the study. Patients were assessed pre-operatively by Hamilton scale grading and the percentage of scalp covered by hair. All the patients underwent Biofibre hair implantation by a standardised surgical technique followed by adequate post-operative care. Efficacy of the implant was evaluated by surgeons and patients bimonthly for the first year and trimonthly during the second year. Any adverse effects were recorded during these visits.

RESULTS: At the completion of the study period, a total of 194 patients concluded the trial and the results were statistically evaluated. Both Hamilton scale grading and covered area percent improved at the end of the study, and subjective and objective evaluations revealed satisfactory results. Side effects were reported in only 18 cases (9.27%) which were easily controlled by either topical or systemic treatment in 8 to 10 days.

CONCLUSION: Overall a successful result was noticed in 97.94% of patients with great psychological satisfaction.

 **Journal of Cosmetology & Trichology**

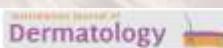
Research Article Open Access

Avancini et al., J Cosmet Trichol 2018, 4:1
DOI: 10.4172/jct.93231600131

Automatic Biofibre® Hair Implant an Innovative Hair Restoration Technique for the Improvement of Quality Life

Results: This modern technique of hair restoration is indicated to treat diffuse hair loss or hair thinning, both for men and for women. Conditions for success are: suitable patient with healthy scalp, qualified physician, respect of implant protocol and after care application, correct identification and therapy of possible skin reactions.

Conclusions: Nowadays automatic Biofibre® hair implant is a valid surgical technique and can be also used alone or in combination with FUE to provide good final results.

 **Australian Journal of Dermatology**

Australian Journal of Dermatology (2017) 58, e94–e99
doi: 10.1111/ajd.12409

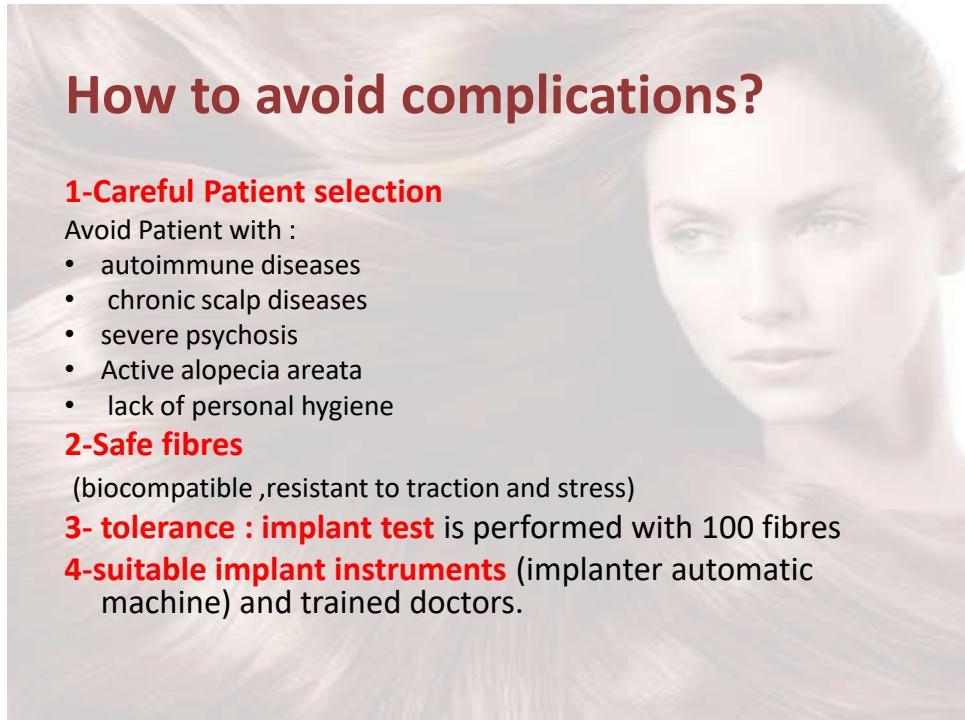
BRIEF REPORTS

Familial frontal fibrosing alopecia treated with dutasteride, minoxidil and artificial hair transplantation

William C Cranwell¹ and Rodney Sinclair^{2,3,4}


Fig 1 Clinical image showing folliculitis 6 months following implantation of artificial hair fibres.


Fig 2 Clinical image showing improvement of folliculitic site following removal of artificial hair fibres.



How to avoid complications?

1-Careful Patient selection

Avoid Patient with :

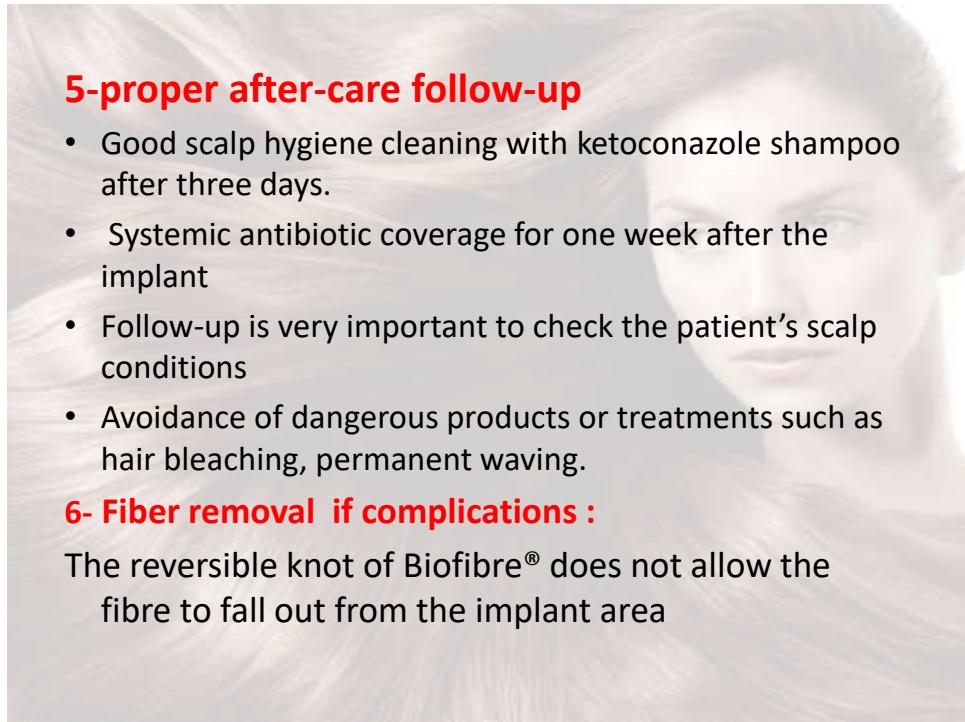
- autoimmune diseases
- chronic scalp diseases
- severe psychosis
- Active alopecia areata
- lack of personal hygiene

2-Safe fibres

(biocompatible ,resistant to traction and stress)

3- tolerance : implant test is performed with 100 fibres

4-suitable implant instruments (implanter automatic machine) and trained doctors.



5-proper after-care follow-up

- Good scalp hygiene cleaning with ketoconazole shampoo after three days.
- Systemic antibiotic coverage for one week after the implant
- Follow-up is very important to check the patient's scalp conditions
- Avoidance of dangerous products or treatments such as hair bleaching, permanent waving.

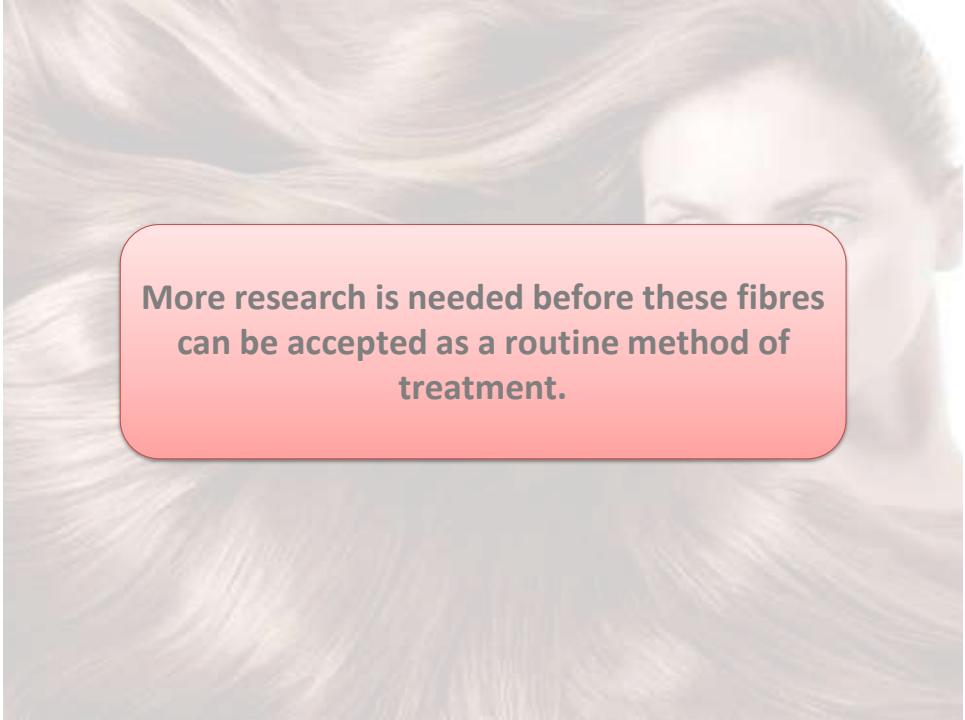
6- Fiber removal if complications :

The reversible knot of Biofibre® does not allow the fibre to fall out from the implant area



Suggestions :

- Fibres may be of use in selected patients, such as those with total alopecia without any donor area
- It should not be regarded as a replacement for hair transplantation in cases with sufficient donor area.
- Nor is this an alternative for medical treatment with minoxidil or finasteride, in early hair loss.



More research is needed before these fibres can be accepted as a routine method of treatment.

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AFTER EFFECT



STIMULATES
FOLLICLE GROWTH



* MICROINFLAMMATION
OF SCALP



Method of Application | - Apply a suitable amount of the shampoo on wet hair with gentle lathering
- Rinse with water 2-3 times weekly
- For best results use it for at least 2-3 months

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SUPPORTIVE HAIR REVIVING LOTION IN CASES OF
ANDROGENETIC ALOPECIA & TELOGEN EFFLUVIUM



Method of Application | - Apply a suitable amount on dry scalp & rub it gently 2 times
- Make a circular motion leaving it on the scalp
- For best results use it for at least 2-3 months

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- Blocks the nuclear DHT uptake
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 - a. activity of the bio-hydroxylase enzyme dehydrogenase (metabolizing DHT into androstanediol);
 - b. weaker estrogen.

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- Stimulation of hair matrix fibroblast proliferation.

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 - Upregulation of ISPVc
 - L-Arginine
 - Caffeine
- Upregulations of Eri- and AVT-
- Camellia Sinensis Ext.
- "EBCP"
- KERATIN PRODUCTION ENHANCERS
 - Zinc Gluconate
 - Retinyl Palmitate
 - TetraphenylAcetate
 - Vit. B3



- Apply a suitable amount on the scalp & rub gently in circular motion for 2-3 minutes then leave it on the scalp.
- For best results use it once daily for the first month then use it any other day afterwards.
- For best results use it for at least 6-12 months.

O

www.pzpharma.com

