

Eyebrow transplant with long hair FUE technique

Transplante de sobrancelha por meio da técnica FUE fio longo

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ABSTRACT

Hair transplant has become one of the most performed cosmetic procedures worldwide, and the follicular unit excision (FUE) method is progressively growing. FUE can be used to treat not only androgenic alopecia, but also eyebrows and beard area. For the eyebrow, follicular unit transplantation (FUT) is considered the gold standard for keeping the hair longer, facilitating the visualization of their direction during the implant. We describe a case of long hair FUE, where this technique was used without shaving the donor area, maintaining the length of the strands, and with no linear scar.

Keywords: Eyebrows; Hair Follicle; Transplantation

RESUMO

O transplante capilar é um procedimento cada vez mais realizado em todo o mundo, sendo que o método FUE (follicular unit excision) cresce progressivamente. O FUE vem sendo utilizado não apenas para a calvície androgenética, mas também para outras áreas, como sobrancelhas e barba. Na região das sobrancelhas, a FUT (follicular unit transplantation) é considerada padrão-ouro por manter os fios longos para visualização da sua direção durante a implantação. Descrevemos um caso de FUE fio longo, sendo que a técnica foi utilizada sem a necessidade de raspagem da área doadora, mantendo a altura dos fios, sem cicatriz linear.

Palavras-Chave: Cabelo; Sobrancelhas; Transplante

INTRODUCTION

Hair transplant (HT) is one of the most widely performed cosmetic procedures in the world. The follicular unit excision (FUE) method has been improved and can now be used to treat not only androgenic alopecia, but also other areas with rarified hair, such as the eyebrows and beard.

The gold standard for eyebrow HT is the follicular unit transplantation (FUT) technique.¹ A strip of the scalp is removed, and follicular units (FUs) are separated and dissected under the microscope. The option for FUT is due mainly to the lack of need to shave the hairs, and long hairs can be used. It is extremely important to determine their direction at the moment of implantation. The correct direction of the hairs is one of the essential factors for achieving a natural appearance. FUT is also quicker than FUE. The main disadvantage of FUT is the presence of a linear scar.

FUE has thus been used less in eyebrow HT, due not only to the prolonged surgical time, but also the need to shave the hairs for extraction from the donor area, making it impossible to see the follicles' direction for their correct implantation.²

How I do

Authors:

Luciana Takata Pontes^{1,2}
Aparecida Machado Moraes^{2,3}
Antonio Ruston¹

¹ Clínica Ruston, São Paulo (SP), Brazil.

² Clínica de Dermatologia e Cirurgia de Campinas, Campinas (SP), Brazil.

³ Faculdade de Ciências Médicas, Universidade Estadual de Campinas, Campinas (SP), Brazil.

Corresponding author:

Luciana Takata Pontes
R. Engenheiro Oscar Americano, 60
Cidade Jardim, São Paulo (SP), Brasil.
05673-050
E-mail: dra.luciana@ruston.com.br

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The development of devices that allow performing the long hair FUE method has allowed us to extract FUs without shaving the hair. We are thus able to graft long hairs without the need for a linear scar.

CASE REPORT

A patient came to our clinic with a complaint of a scar on his left eyebrow following a fall. He felt aesthetically bothered and asked about the possibility of HT to repair the area.

We opted for the FUE method, because the patient did not want a linear scar on his scalp. He wore his hair short, and a linear scar would be visible. In order for the hairs to have the minimum length to assess their direction, we chose long hair FUE as the best option.

We chose a strip approximately 10cm x 3cm on the left temporal region as the donor area, since it presented long, delicate, and definitive hair (Figure 1). We used the follicular extraction device called Mamba FUE device (Trivellini Tech, Paraguay), with the following parameters: "smart react" (with no need for a pedal; the punch triggers the preprogrammed movement after sensing the pressure difference), and the punch movement for each extraction is divided into 200ms oscillation (at 180 degrees), followed by 400ms of mamba movement (similar to divulsion), followed by 300ms more of oscillation (at 120 degrees). The punch we used was Trivellini Long Hair 0.95mm, developed to extract intact hair grafts without the need for shaving. The device is partially sharp and has grooves that protect the hairs, avoiding their being cut during extraction (Figures 2 and 3). Following local anesthesia, the extracted FUs (total of 86) were separated under the microscope into 44 single-hair FUs and 42 double-hair FUs, maintained in saline solution until the start of implantation. The excess length of each strand was cut with a no. 15 scalpel blade, leaving the strands 1cm long, thereby facilitating both the placement and visualization (Figure 4).

Following conclusion of the extraction and anesthesia of the eyebrow, the FUs were engrafted by the stick-and-place method (each incision followed immediately by placement) with a 21G needle bent into two places to guarantee sharp incisions (Figure 5). The direction of the incisions followed the direction of the hair follicles already at hand. Close attention must be paid not only to the angle and direction of the incisions, but also to the direction and curvature of the implanted hairs, in order to avoid disorderly growth.

The single-hair FUs were placed in the more external areas, and the double-hair FUs in the more internal areas. The patient was advised that since it was a scar area, it would not be possible to perform incisions too close together, or the grafts' viability could be compromised.

After engraftment, the area was cleaned and left without a dressing (Figure 6). The patient was instructed on proper hygiene of the area to avoid traumatic removal of the scabs, and was prescribed 2% topical minoxidil, in addition to Vaseline unguent after the third day.

The transplanted follicles fell out within 30 days, and the new hair began to grow in two months. At six months, the scar



FIGURE 1: Upper: Intraoperative marking of donor area. Lower: appearance of healing one year after surgery

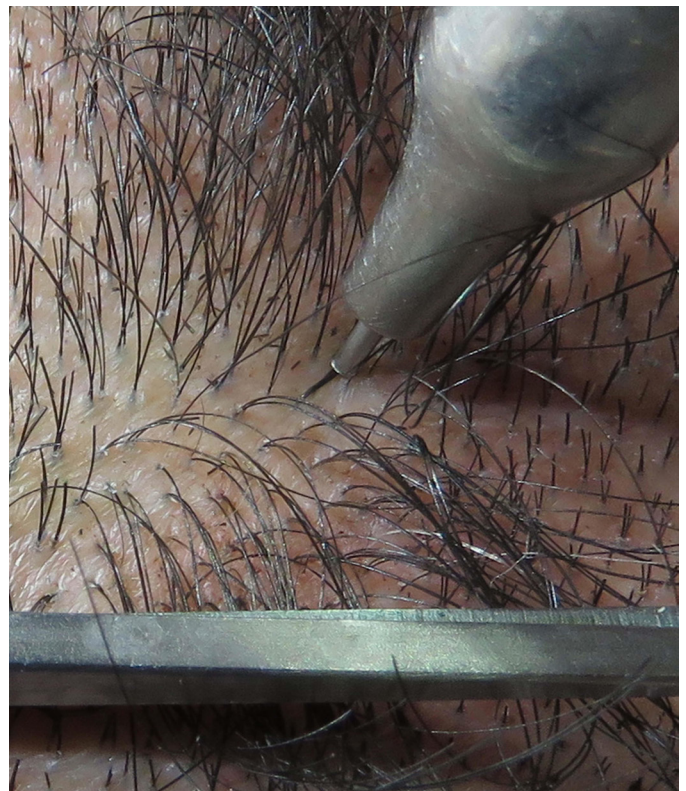


FIGURE 2: Extraction of grafts with long hair FUE method

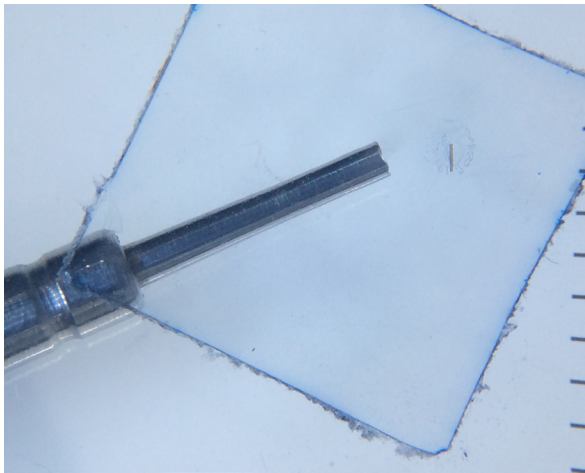


FIGURE 3: Close-up of 95mm long hair punch. Note the grooves which facilitate extraction of grafts without cutting the hairs

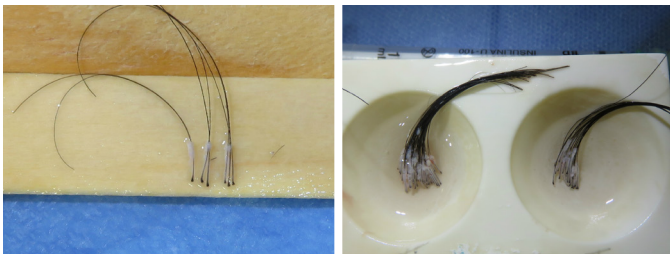


FIGURE 4: Follicular units following extraction



FIGURE 5: 21 G needle bent in two places to facilitate incision and placement by stick-and-place method at sharp angle

was already covered. The patient was instructed on the need to trim the transplanted hairs routinely, since their anagen growth time is longer than the eyebrow's native hair. Patient returned a year later, satisfied with the outcome, and reported not seeing the punctiform scars in the donor area and not feeling the need for a second procedure to increase the hair density in the eyebrow area (Figure 7).



FIGURE 6: Pre and immediate postop



FIGURE 7: Preop and one year postop

DISCUSSION

Eyebrow HT is an increasingly popular procedure in our dermatology practice.

The use of single or double-hair FUs, maintaining the follicle's length around 1cm, is essential for a natural-looking result. The single-hair FUs are used for the eyebrow contour to ensure a natural appearance, while the double-hair FUs are used

in the center for greater density.

The importance of maintaining minimal length of the hairs is due to the need for visualization of their angle, essential for ensuring that the hairs are grafted in the right direction.

In the FUT technique, a strip is removed from the donor region of the scalp (usually occipital or temporal), followed by suturing.³ The strip's thickness and length depend on the amount of FUs needed and the local elasticity, attempting to avoid a wide scar. In the FUE technique, the FUs are removed one by one from a region where there is no risk of miniaturization. Punches are used with diameters less than 1mm. The microincisions heal by second intention, with no need for sutures. The FUE technique classically requires shaving the hair for extraction of the grafts.

Many authors consider FUT the gold standard for eyebrow HT.¹ This is because the procedure allows extracting longer hair, and even leaving a linear scar, the latter is usually hidden by the patient's hair. However, recent years have witnessed a demand by patients themselves for the FUE method, influenced by the media and their own desire to avoid the sutures and linear scar.

The new technologies allow us to perform the FUE technique on eyebrows, but leaving hairs long enough to evaluate their direction and angulation.⁴ This method, called long hair FUE, uses a specific, partially sharp punch with grooves that protect the hairs, avoiding cutting them during extraction. The main disadvantage is the technical difficulty and operating time, but the hairs are left with a minimal length to evaluate their direction and angulation, essential in eyebrow HT, avoiding the need for a linear scar.

In addition to ruling out inflammatory activity, it is important for the patient to be aware that in cases involving scars, the final density might not be satisfactory due to the impossibility of dense placement (since it was fibrotic scar tissue, with less blood supply). One characteristic of eyebrows is the implantation at sharp angles, strictly following the direction of the preexisting hairs.⁴ The patient should be instructed to trim the new hairs, since their growth cycle is longer than that of the original eyebrows. We avoid surgeries in patients with curly hair in the donor area, because the transplanted hair follows the original pattern, which can compromise the natural appearance in such cases. ●

REFERENCES

1. Klingbeil KD, Fertig R. Eyebrow and eyelash hair transplantation: a systematic review. *J Clin Aesthet Dermatol*. 2018;11(6):21-30
2. Jiang W, Wang M, Wang B. Clinical outcomes and technical tips for eyebrow restoration using single-follicular-unit hair transplantation: a case series review. *J Cosmet Dermatol*. 2019. Epub 2019 Dec 9.
3. Radwanski, HN, Ruston A, Lemos RG. Cirurgia da calvície: um histórico. In: Radwanski. *Transplante capilar: arte e técnica*. São Paulo: Roca; 2011
4. Bared A. What's new in facial hair transplantation? Effective techniques for beard and eyebrow transplantation. *Facial Plast Surg Clin North Am*. 2019;27(3):379-84.

AUTHOR'S CONTRIBUTION:

Luciana Takata Pontes |  ORCID 0000-0002-9383-0569

Statistical analysis; approval of the final version of the manuscript; conception and planning of the study; elaboration and writing of the manuscript; data collection, analysis, and interpretation; intellectual participation in the propaedeutic and/or therapeutic conduct of the cases; critical review of the literature; critical revision of the manuscript.

Aparecida Machado Moraes |  ORCID 0000-0003-0814-0705

Approval of the final version of the manuscript; critical revision of the manuscript.

Antonio Ruston |  ORCID 0000-0003-0067-9255

Approval of the final version of the manuscript; conception and planning of the study; elaboration and writing of the manuscript; effective participation in orientation of the research; intellectual participation in the propaedeutic and/or therapeutic conduct of the cases; critical revision of the manuscript.