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Research Letter

Mirror Hair Transplantation: Donor and Recipient Area Exchange in Discoid Lupus

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To the Editor,

In hair transplantation, the occipitotemporal region, beard, and body hair have been documented as donor areas. We describe a woman with scars secondary to discoid lupus erythematosus (DLE) affecting almost the entire occipitotemporal scalp (the area usually used as the donor site), which we reconstructed using follicular units (FU) obtained from the parietal and frontal areas (usually recipient sites).

A 45-year-old woman had DLE of the scalp confirmed histologically at the age of 20 years. Since then, she had not shown clinical or laboratory signs of systemic involvement. The lesions had remained inactive for the previous 11 years. Large plaques of cicatricial alopecia were observed affecting the vertex and the entire temporal and occipital regions, preventing her from covering the scalp with the limited remaining hair (Fig. 1). Consequently, the patient wore a hair prosthesis. Hair transplantation was proposed to reconstruct the inactive cicatricial alopecia plaques. However, the area to be reconstructed involved the entire region of the scalp usually used as the donor area, and neither beard nor body hair was available. Therefore, the possibility of extracting FUs from the only areas of the body where she had hair – the parietal and frontal regions – was considered. To minimize the risk of reduced density in these areas after surgery, a total of 2000 FUs were extracted (1000 FUs from each side) instead of 3000 FUs. In addition, extraction was performed only from the lower or caudal halves of these regions, allowing them to be concealed by hair falling from above with normal density when styled with a middle part (Fig. 2a and b). Reconstruction of the alopecic plaques was performed by extrapolating this hypothesis in reverse (mirror fashion): plaques located in the upper and middle thirds were treated with densities of 40 FUs/cm^2 so that this hair would cover the small lower plaques that could not be reconstructed due to the limitations described (Fig. 2c and d). The result at 1 year demonstrated complete coverage, allowing the patient to cover all areas even with short hair (Fig. 3a–c). In the donor area, the patient surprisingly decided to wear a side part, coinciding with the extraction site, since she reported not perceiving any reduction in density (Fig. 3d–f). After 4 years of follow-up, the patient had not experienced any loss of density in any of the areas.

Hair transplantation is a surgical technique indicated for reconstructing different forms of alopecia that are not reversible with pharmacological treatment.[1] Its indication in primary cicatricial alopecias (PCAs) remains controversial, since the occurrence of new inflammatory flares could destroy the implanted follicles.[2,3] Frontal fibrosing alopecia,[4,5] followed by lichen planopilaris,[5,6] are the PCA conditions with the greatest clinical experience. Due to the reduced vascular supply characteristic of scar tissue, it is recommended[7] not to exceed densities of approximately 30–40 FUs/cm^2. In PCAs, periods of

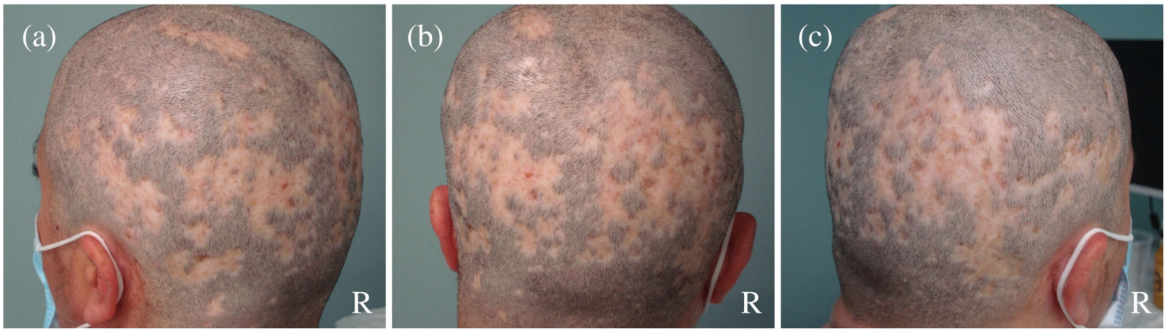

Fig. 1. (a–c) Large plaques of cicatricial alopecia without inflammatory signs affecting the vertex and the entire temporal and occipital regions, preventing coverage of the scalp with the limited remaining hair. R: recipient area.

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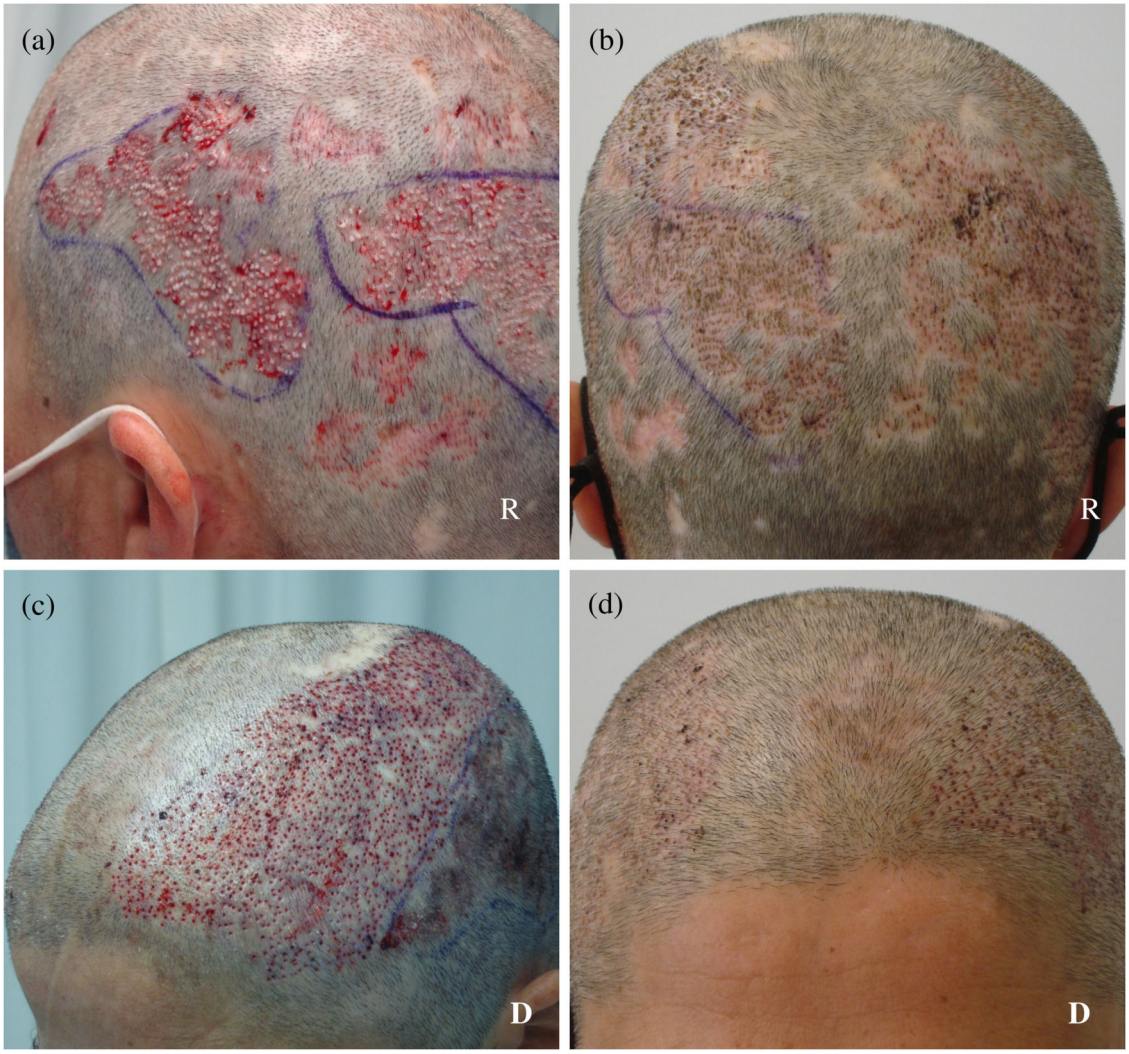

Fig. 2. (a and b) Extraction from the lower frontal and parietal regions so that hair descending from the upper region with styling could compensate for potential resulting hair deficiency. (c and d) Due to the limited donor area, implantation prioritized the large scars of the upper and middle regions so that the hair would cover the remaining small lower scars. R: recipient area; D: donor area.

Fig. 3. (a–c) The result at 1 year demonstrated complete coverage, allowing the patient to cover all areas even with short hair. (d–f) In the donor area, the patient surprisingly decided to wear a side part coinciding with the extraction area, as she reported not perceiving a decrease in density. R: recipient area; D: donor area.

at least 1–2 years of inactivity are required before surgical management. Regarding DLE, only one study[8] from 1976 mentions this treatment option using macro-grafts obtained with 4-mm diameter punch grafts. To our knowledge, the present case is the first to describe reconstruction by hair transplantation of cicatricial alopecia due to DLE since the introduction of micrografts or individual FUs (0.8-mm punch).

In literature, the following donor areas have been documented: the occipitotemporal scalp (where there is more hair than aesthetically required), beard, and body hair (where hair has secondary or unnecessary aesthetic importance).[7,9,10] However, as our patient was a woman, hair was present only in the usual recipient area of most hair transplants: the parietofrontal region. Due to the risk of density depletion in such a critical area, we consider that extraction from this region should only be considered in the absence of concomitant androgenetic alopecia.

When the donor area is limited, greater efficiency can be achieved and a similar "optical result" obtained with fewer FUs by placing higher density in the most visible area so that this hair conceals areas of alopecia that are aesthetically less relevant. Each recipient area (vertex, temples, anterior or middle third, beard, eyebrows) has a particular strategy. However, for recipient areas without scientific experience such as the occipital region, we suggest placing greater density in the upper zones (more visible) than in the lower ones (more concealed and covered by the former) to improve the overall result. As a result, we surgically approached the donor and recipient areas in an inverse or "mirror" manner: (i) extraction from the lower frontal and parietal zones so that hair descending from the upper region with styling could compensate for possible resulting hair deficiency and (ii) implantation prioritizing the large scars in the upper and middle regions to produce the same optical effect covering downward.

Ethical statement

Written informed consent has been obtained from the patient presented.

Conflict of interest

The authors declare that they have no conflict of interest.

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