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CLINICAL COMMENTARY

Alopecia due to hair extensions successfully treated with hair transplantation

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Permanent alopecia due to hair extensions has been rarely reported.[1,2] It occurs secondary to the chronic traction exerted by the attachments of the hair extensions to the natural hair, leading to sustained follicular inflammation which may eventually result in a permanent loss of terminal hairs. Hair transplantation is a well-known effective therapy for the scarring type of traction alopecia (TA).[3,4] The hair graft survival rate after transplantation of scarring TA has not been specifically studied, but as occurs in other types of secondary scarring alopecias, the patient satisfaction rate after hair transplantation is high (87%).[4] To our knowledge, hair transplantation has not been reported as a therapy for the permanent traction alopecia caused by hair extensions.

The patient was a 35-year-old female with a 9 year history of localized alopecia in temporal and occipital areas (Figure 1A). Although the patient referred to using hair extensions in the affected areas for many years and related the hair loss with this fact, she had been misdiagnosed with alopecia areata and treated with intralesional steroids with no response. A biopsy of the alopecic plaques showed the presence of follicular fibrous tracts and minimal perifollicular inflammation confirming the diagnosis of scarring alopecia secondary to traction (Figure 2). Treatment was performed with autologous hair transplantation using the follicular unit excision (FUE) donor harvesting technique.[5] A total of 808 follicular units (FUs) were transplanted in 30 cm^2 of the right temporal area and 6 cm^2 of the left occipital alopecic areas with an FU density of 25 FUs per cm^2 (Figure 1B). One year after the procedure, the transplanted areas were covered with hair and the patient was very satisfied with the cosmetic result (Figure 1C).

DISCUSSION

TA is a form of trauma-induced alopecia caused by the prolonged pulling of hair shafts related to certain tight hairstyles. Initially, it is a reversible condition, but if the cause persists as in our patient, permanent scarring alopecia may develop. Histologically, TA in early stages shows trichomalacia and an increased number of telogen and catagen hairs, and in chronic stages, terminal follicles can be replaced with fibrotic tracts. Inflammation is little to absent in longstanding TA but may be mild in some cases of early TA.

The diagnosis of TA can be challenging when the external factor is not suspected or admitted by the patient, and it may be misdiagnosed as trichotillomania, frontal fibrosing alopecia, or the rarely reported scarring condition known as cicatricial marginal alopecia.[6] The "fringe sign," a rim of persistent residual hairs along the marginal hairline, has been reported as a useful clinical sign to suspect TA.[7] However, it can also be present in the "pseudo-fringe" pattern of frontal fibrosing alopecia and in cicatricial marginal alopecia. Thus, a clear history of traction, as confirmed in our patient due to the long term use of hair extensions, is key in the diagnosis of TA.

In conclusion, the possibility of developing a scarring alopecia due to the chronic use of hair extensions should not be underestimated and hair transplantation appears to be a very effective way to treat the late scarring stages of traction alopecia due to hair extensions.

FIGURE 1 (A) Two plaques of scarring alopecia due to hair extensions located on the left occipital and right temporal area. (B) Immediately after hair transplantation of 808 FUs. The shaved area on the left image corresponds to the donor area for FUE harvesting. (C) Postoperative result 1 year after hair transplantation

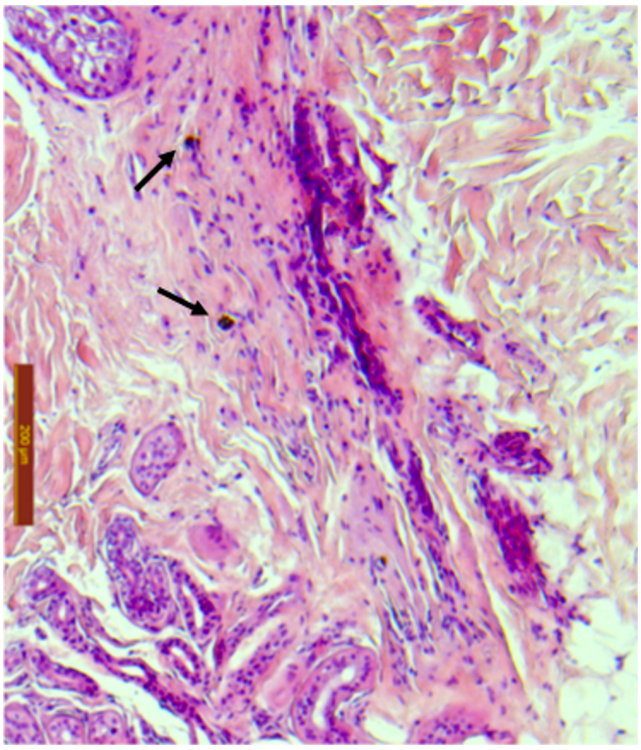

FIGURE 2 A biopsy of the alopecic area showed the presence of follicular fibrous tracts and melanin deposits at the periphery of the collagen bundles (black arrows)

CONFLICT OF INTERESTS

The authors have no conflict of interests.

ETHICAL APPROVAL

This case is non-interventional study and does not required ethical approval.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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