

When is the Appropriate Time to do Hair Transplantation in Recalcitrant Alopecia Areata, or Never?

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Abstract

Alopecia areata (AA) is a common and distressing condition in populations worldwide. The course of this condition is unpredictable and remains elusive. Patients with AA have a negative appraisal of their self-image, resulting in a demand for any effective treatment options. Hair transplantation might be considered for those patients who have exhausted standard clinical therapies for a period of time. However, the appropriate time to do hair transplantation in recalcitrant alopecia areata is still in question, or may be never.

Keywords: Alopecia areata; Hair transplantation

Case Report

A 31-year old Asian male presented with a 6-year history of patchy hair loss on his scalp and right eyebrow. He was initially seen by dermatologists and had been treated with topical corticosteroids, intralesional corticosteroid and 5% minoxidil lotion for the past 5-6 years without improvement. There was no history of autoimmune diseases, thyroid diseases or atopy as well as, no family history of alopecia areata. Examination of the scalp showed a non-scarring alopecic patch sized 3.5×6.5 cm on the right frontal area and another non-scarring alopecic patch sized 1×1 cm on the right eyebrow (Figures 1a and 2a). Pull test was negative on both sites. Pitting nails were not observed.

Scalp and eyebrow were biopsied with standard 4 mm punches. The histopathology of the biopsy from the scalp showed decreased hair follicles in anagen phase and lymphocytic infiltration around the hair bulbs and fibrous tissue. The biopsy from the eyebrow revealed only decreased number of the hair follicles. The histopathology results were consistent with alopecia areata.

The patient was eager to undergo hair transplantation since he had to keep his hair long to comb it downward to hide the hair loss on the scalp and right eyebrow. The informed consent and long-term risk of treatment failure as well as disease recurrence were explained and discussed with the patient. The first hair transplantation procedure was performed in October, 2005 (1 month after the scalp and eyebrow biopsies). The estimated area on the scalp was 35 cm². A total of 578 grafts with 1,013 hairs were transplanted in the alopecic patch on the scalp, and a total of 144 hairs were transplanted in the alopecic patch on the eyebrow (Figures 1b and 2b). Periodic follow up documented this patient's clinical improvement as the hair grafts grew well on both scalp and eyebrow. He was very happy with the result. Since the scalp hair still appeared thin, he wanted to add more density on the affected area of the scalp (Figures 1c and 2c). The second hair transplantation was undertaken in May, 2013 (7 years and 5 months after the first transplant); a total of 804 grafts with 1,648 hairs were transplanted on the scalp. The final total number of the transplanted grafts was 1,526 with 2,661 hairs for the scalp and 144 hairs for the eyebrow. Post op course was uneventful with no loss of previous grafts.

The patient returned for the follow up in February, 2014, 9 months after the 2nd session. There was no sign of recurrence and the hair growth was still impressive (Figures 1d and 2d).

Discussion

Alopecia areata (AA) is a relatively common condition, affecting

0.1-0.2% of the global population with a lifetime risk of 1.7% [1]. Although AA can affect people of all ages and the condition has been known to develop before the age of 20 [2]. It appears to affect both sexes equally. The diagnosis of AA is usually based on characteristic clinical features which include ovoid non-scarring alopecia on the hair-bearing areas, most commonly on the scalp. Exclamation mark hair has sufficient discriminatory value to make a proper diagnosis. However, histopathological examination can improve diagnostic accuracy in patients with atypical presentation [3]. Although the pathogenesis of AA is still unknown, strong evidence indicates a link between AA and innate and adaptive immune response [4]. The association with autoimmune diseases such as autoimmune thyroid diseases, vitiligo and atopy has been reported [5].

Treatment of AA is challenging. The treatments that can suppress established immune responses is the coveted goal [6]. Treatments include topical corticosteroid, intralesional corticosteroid, short-contact anthralin, minoxidil lotion, phototherapy as well as topical immune-modulators such as diphenylcyclopropenone and squaric acid dibutyl ester. Nevertheless, the response to these treatments varies and depends on the severity of AA [7].

Hair transplantation may be reserved for refractory cases [8,9]. To my knowledge there were only two reported cases of AA undergoing hair transplantation. Barankin et al. reported a patient with chronic persistent AA on the eyebrow undergoing hair transplant for 85 mini-and micrografts [8]. The disease recurred 8 months after the hair transplantation before it was in control again after monthly intralesional corticosteroid injection. The biopsy was not taken in this case. Although the disease had flared up, the patient was still satisfied with the result from surgery. Unger et al. reported a second case in which the AA on the scalp that failed to respond to many therapeutic

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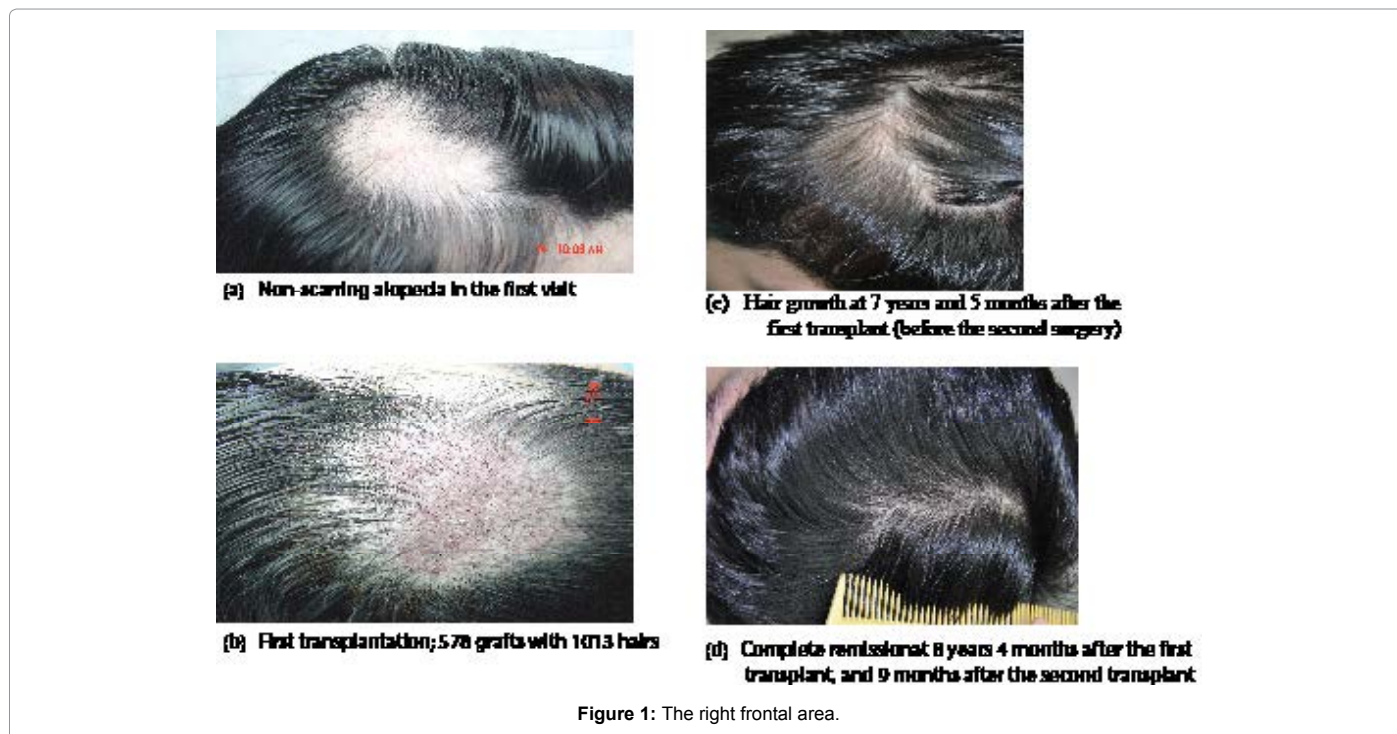


Figure 1: The right frontal area.

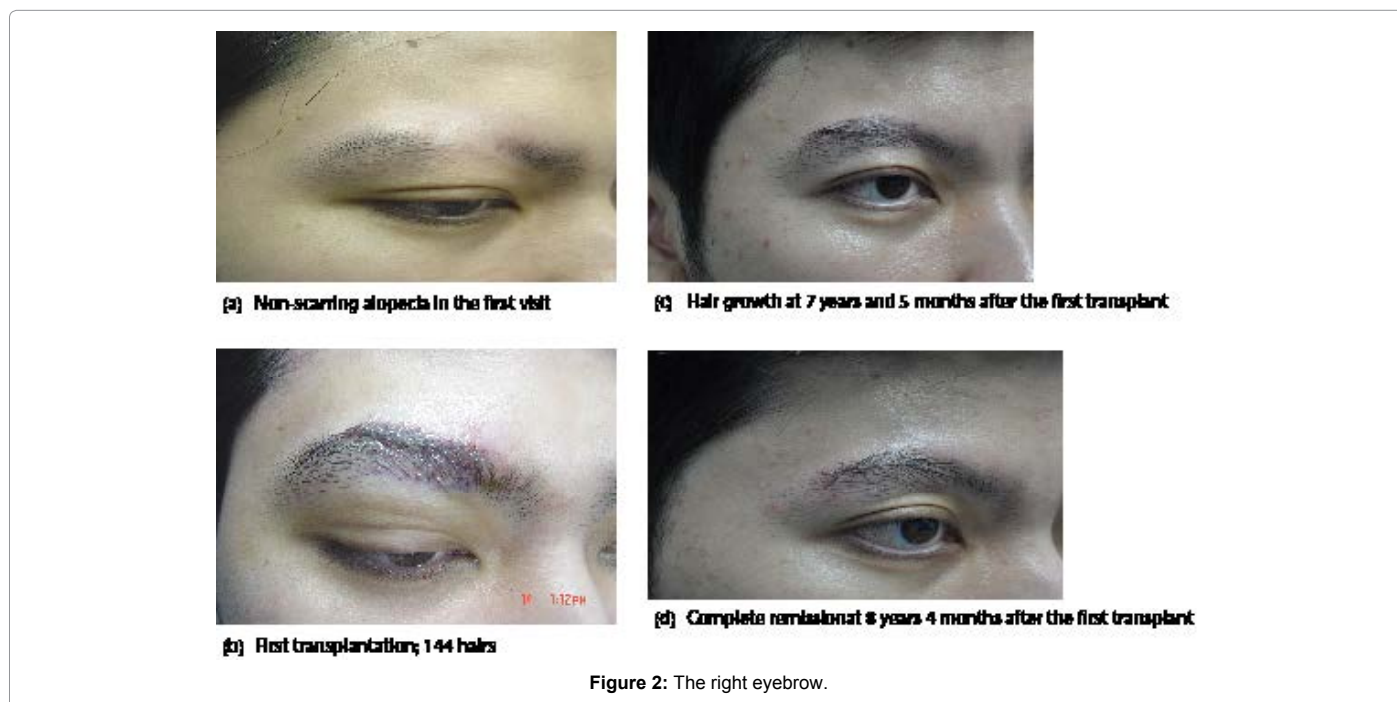


Figure 2: The right eyebrow.

medications including oral prednisolone [9]. The scalp biopsy was performed and showed a reduced number of hair follicles with residual fibrotic tracts and no inflammatory cell infiltration. The 60 test grafts were initially transplanted on the affected area, and the patient had had a disease-free period confirmed by rebiopsy for at least 11.5 months before the full treatment session was performed.

There is an ongoing debatable issue whether patients with recalcitrant AA should have hair transplantation. In the past, AA is considered a contraindication for hair transplantation since the disease

might recur, resulting in losing hair grafts. Patients were left with psychological impact of patchy hair loss of the scalp. The options of the treatment of recalcitrant AA are 1) Do nothing, 2) Do something by using hair piece, hair mask cream, hair fiber to camouflage with existing hair and micro pigmentation, 3) Do more aggressive treatment with hair transplantation.

Hair transplantation might be the last resource to consider in recalcitrant AA, if patients with recalcitrant AA insist to have hair transplantation, they need to be informed of the recurrence of the

disease with the graft loss or no growth. Biopsy should be done prior to surgery to rule out other diseases of the scalp.

This might be an exceptional case report of recalcitrant AA after hair transplantation showing good hair growth over 8 years without relapsing. However, the disease free for 8 years does not guarantee the recurrence of AA in the future. Although it is unknown how hair transplantation has an effect on the disease remission and whether AA might recur, hair transplantation is probably the last choice for patients with recalcitrant AA.

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