



Case Report

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Experience in Treatment of Patchy Alopecia Areata with Advanced Adipose-Derived Stem Cells Protein Extract (AAPE)

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Abstract

Background and Objectives:

Alopecia areata is a common disease, which causes significant cosmetic and psycho-social distress for most of the people it affects.

The most evidence-based hypothesis is an autoimmune reaction caused by the loss of hair follicle immune privilege. Immune privilege loss is assumed to be either a primary event that triggers antigen presentation in a disturbed hair follicle environment or an event that occurs as a result of central immune system dysregulation that involves the follicles.

Several gene loci have been identified with alopecia areata.

In this study, we report an innovative form of treatment with AAPE in a patient with advanced chronic alopecia areata.

Study Design/Patients and Methods:

In this case report, I have investigated the therapeutic effect of a single treatment session using AAPE in a female patient with a challenging form of alopecia areata.

Results:

Treating the patient with AAPE resulted in no adverse effects after the session, significant satisfactory regrowth of healthy hair in the entire treated area.

In the six months follow-up period, there was no evidence of relapse in the treated areas.

Conclusions:

Intradermal application of AAPE has been proved to be successful, safe treatment and easy to apply. The recovery was very satisfying even after 6 months post AAPE only.

Introduction

After androgenetic alopecia, alopecia areata is the most frequent kind of hair loss.

Alopecia areata is non-scarring patterned alopecia that affects both males and females of all ages, but it is more common in children and adolescents, up to 2% of the common population. Although the etiology of the disease is unknown, an autoimmune mechanism is implicated in its pathogenesis.[1]

It's an autoimmune condition (dysfunctional immune response) in which T cell lymphocytes cluster around anagen hair follicles, producing inflammation and subsequent hair loss.

Several factors, including other immune disorders, genetics, thyroid functional abnormalities, and stress, can all contribute to the disease's onset.[2 -7]

Hair can regenerate and the problem does not recur in some circumstances. In others, it's a recurring issue that can cause cosmetic and psychosocial anguish, negatively impacting their quality of life.[4]

Pathogenesis:

The absence of expression of class I and class II major histocompatibility antigens in normal anagen hair follicle keratinocytes suggest that the human hair follicle bulb has immunologic privilege.

Alopecia areata is caused by T lymphocytes preferentially targeting immune-privileged hair follicles. The hair follicle expresses human leukocyte antigens (HLA-A, -B, -C, -DR), allowing cytotoxic T lymphocytes to engage with hair matrix cells.

Treatment is very challenging, intralesional and topical corticosteroids are often the first therapeutic options. PUVA, topical minoxidil, anthralin, and topical sensitizers have all shown clinical efficacy in some patients.[1]

Case Presentation

A 27 years old female patient suffering from spontaneous and progressively worsening hair loss of scalp hair for three years. Her eyebrows and eyelashes as well as her body hair were preserved.

Alopecia areata lesions caused her a significant psycho-social problem that resulted in her wearing a wig in her daily life.

She is known to have had atopic dermatitis since childhood. She previously received a systemic corticosteroid two years ago but was not effective in stopping the hair loss. Recently she is not on any systemic or topical treatment.

Clinical examination; There were five oval big non-scarring alopecia areata patches distributed in the scalp. Multiple exclamation point hair with the distal end broader than the proximal end is present at the margins of the patches. (Fig1. a. b)



Fig1.a



Fig1.b

Fig 1.a.b: Alopecia areata, oval big non-scarring alopecia areata patches in the scalp, exclamation point hair with the distal end broader than the proximal end.

Course of therapy and active ingredient

AAPE is a hair regenerative therapy for hair growth treatment using Adipose-derived stem cells conditioned medium (ADSCs-CM) under hypoxia. AAPE treatment contains numerous growth factors (GF), regenerative proteins, collagen, Vitamin B1, Vitamin B6, Vitamin H, Vitamin C, Vitamin E, Q10 and others, along with amino acids mesotherapy.

The treatment session consisted of two techniques; first intradermal papular injections with 30 G needle of the GFs solution for a total volume of 4 ml. followed by the application of the antioxidant mesotherapy solution via derma-pen apparatus. [6]

No further treatment of any type was done.

The first patient's follow-up was 6 months later with a significant satisfactory hair regrowth of healthy hair in most alopecia areata lesions.

Results

Treating the patient with AAPE resulted in significant satisfactory regrowth of healthy hair in the entire treated area After approximately four weeks of the session.

No adverse effects after the session were reported, and the patient did not indicate any post-treatment pain. (Fig2.a.b).

The treated area required no special care after the session.

In the six months follow-up period, there was no evidence of relapse in the treated scalp areas.



Fig2.a



Fig2.b

Fig 2.a.b: significant satisfactory regrowth of healthy hair in the treated area.

Conclusions

In this case report the therapeutic effect of treating a challenging form of patchy alopecia areata with a single session AAPE was investigated, on an observational basis. AAPE is a combined hair regenerative therapy enhanced by hypoxic ADSC-CM, it contains numerous important growth factors, vitamins and regenerative proteins. Intra-dermal application of the solution has been proved to be successful, safe treatment and easy to apply. The recovery was very satisfying even after 6 months post AAPE only.

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