

**SYSTEMATIC REVIEW TO ASSESS EFFECTS OF PLATELET-RICH PLASMA (PRP) INJECTIONS FOR THE TREATMENT OF ANDROGENETIC ALOPECIA (AGA).**

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ABSTRACTS

Androgenetic alopecia (AGA) is one of the most common chronic problems seen by dermatologists worldwide. It is characterized by progressive hair loss, especially of scalp hair, and has distinctive patterns of loss in women versus men, but in both genders the central scalp is most severely affected. These systematic review was conducted to assess the effectiveness of Platelet-rich plasma (PRP) injections for the treatment of Androgenetic alopecia (AGA). Various databases were searched for relevant reviews and these include PubMed, Medline, EMBASE, Cochrane and Google Scholar form the years 2010 until November 30, 2016. These searches produced only 15 articles that fulfilled inclusion criteria and were carefully reviewed, the total number of patients participated were 634. The review clearly highlighted the positive effects Platelet-rich plasma (PRP) injections on male and female pattern hair loss or Androgenetic alopecia (AGA) with no adverse effects but there was no studies carried out to compare the effectiveness and efficiency of different available options medications for the management of AGA, so still more extensive controlled studies are needed weather to study the effects of PRP injections or to compare the effects of other available medications in the treatment of AGA.

KEY WORDS: Androgenetic alopecia (AGA), Platelet-rich plasma (PRP) and hair loss.

INTRODUCTION

Hair loss or alopecia affects the majority of the population at some time in their life, and increasingly, sufferers are demanding treatment. Three main types of alopecia (androgenic [AGA], areata [AA] and chemotherapy-induced [CIA]) are very different, and have their own laboratory models and separate drug-discovery efforts.

Androgenetic alopecia (AGA) is one of the most common chronic problems seen by dermatologists worldwide. It is characterized by progressive hair loss, especially of scalp hair, and has distinctive patterns of loss in women versus men, but in both genders the central scalp is most severely affected. It often begins around puberty and is known to effect self-esteem and the individual's quality of life. In contrast to the high prevalence of AGA, approved therapeutic options are limited. In addition to the scarce pharmacologic treatments, there are numerous nonprescription products claimed to be effective in restoring hair in androgenetic alopecia (AGA), a hereditary and androgen-dependent progressive thinning of the scalp hair in a defined pattern, is a common dermatological disorder affecting more in men and occasionally in women, with significant negative impact on their social and psychological well

being. It commonly begins by 20 years of age and affects nearly 50% of men by the age of 50 years.

Platelet-rich plasma (PRP) has been proposed as an effective treatment for different diseases. Platelet-rich plasma (PRP) was identified as having a beneficial effect in alopecia and has been postulated as a new therapy for androgenetic alopecia (AGA).

Medical Treatment

The medical treatment for AGA can be generally divided into androgen-dependent and androgen-independent. Androgen-dependent agonists act against androgen, for example, reduce testosterone levels, serve as androgenreceptor blockers, or 5-alpha-reductase inhibitors (5-ARIs).

Examples of Androgen-Dependent Agents include Alpha-Reductase Inhibitors and 5-Alpha-Reductase Inhibitors. Androgen-independent drugs work through different mechanisms other than hormones and includes Estrogen and Other Anti-Androgen Treatments, Hormonal treatment for AGA can be divided into two broad groups, anti-androgens and estrogenic (or antiestrogenic) drugs. This group of therapies has particular utility in FAGA patients, especially in those with androgen excess or hormonal dysregulation^[1, 2, 3].

Non-Medical Treatment

Surgical Treatment: Surgical treatments play an important role in AGA patients who do not have success with medical therapies. These include hair transplantation and scalp reduction, or a combination of both. (5).

Light Therapy: The paradoxical increase in hair growth observed with the use of 810-nm pulsed laser, low light, and intense pulsed light intended for hair removal led to the initiation of using laser light therapy for AGA. The mechanism of action of low-level light therapy continues to be poorly understood. The proposed theory is that the cellular respiratory chain of mitochondria absorbs the light energy, resulting in increased electron transport and promoting cellular signaling and purportedly allowing for possible hair regrowth (6).

Methodology

Various databases were searched for relevant reviews and these include PubMed, Medline, EMBASE, Cochrane and Google Scholar from the years 2010 until November 30, 2016 using the keywords: Androgenetic alopecia, hair loss and platelet-rich plasma.

These searches produced 22 articles but only 15 articles were selected according to inclusion criteria where 7 articles rejected because they were irrelevant to the study objectives. Each article was carefully read by the main author. The total number of patients participated in these 15 articles were 634.

CONCLUSION

This systematic review clearly highlighted the positive effects of PRP injections on male and female pattern hair loss and absence of major side effects. It is safe, cheap, and non-allergic, and it appears to be a useful adjuvant in the management of AGA. Also the search concluded that there was no studies carried out to compare the effectiveness and efficiency of different available options medications for the management of AGA, so still more extensive controlled studies are needed whether to study the effects of PRP injections or to compare the effects of other available medications in the treatment of AGA.

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