INTRODUCTION

Temporal triangular alopecia (TTA) is an uncommon dermatosis of unknown etiology, with the unilateral area of non-cicatricial thinning hair and bilateral presentation of affected area. TTA onset in adults has been reported in only a few studies.[1,2] Since TTA shares common clinical, dermoscopic, and histologic features of characterized vellus hair formation change, similar to androgenetic alopecia (AGA). Whereas, platelet-rich plasma (PRP) with multiple growth factors can provide treatment efficacy in AGA. Due to limited treatment for TTA, such as topical minoxidil, complete surgical excision, and hair transplantation, the multiple growth factors in PRP is thus postulated to be also effective for TTA treatment, just as in AGA. We present a case of TTA with unsatisfactory treatment outcome of only increased number and thickness of vellus hair by dermoscopic examination follow-up after the 5-session PRP injection and only transient response for 6 months. Unlike, AGA, the PRP injection might not consequently be a suitable treatment option for TTA. Nonetheless, further studies should be performed to investigate the potential treatment modality for TTA.

CASE REPORT

A 58-year-old male presented with alopecia patch on his scalp since childhood. Having no medical history, his examination revealed a well-demarcated, oval-shaped 2 cm × 2.5 cm area of non-scarring alopecia located on the left frontotemporal scalp area, covered by extremely thin vellus hair. No other alopecic patches or skin lesions were observed. Dermoscopic examination (DermLite DL3N, 3Gen, San Juan Capistrano, CA, USA) revealed normal follicular openings with vellus hairs surrounded by normal terminal hairs [Figure 1a].

The diagnosis of TTA was made after clinical and dermoscopic results from the diagnostic criteria for TTA of non-scarring alopecia located on the left frontotemporal scalp area, covered by extremely thin vellus hair. No other alopecic patches or skin lesions were observed. Dermoscopic examination (DermLite DL3N, 3Gen, San Juan Capistrano, CA, USA) revealed normal follicular openings with vellus hairs surrounded by normal terminal hairs [Figure 1a].

How to cite this article: Lueangarun S, Pacharapakornpong S, Tempark T. Transient treatment response of platelet-rich plasma injection for temporal triangular alopecia: A case report with dermoscopic examination follow-up. Int J Trichol 2020;12:126-8.
by Inui et al.,\textsuperscript{[3]} including the triangular or lancet-shaped patch of alopecia involving frontotemporal scalp; trichoscopically normal follicular openings with vellus hairs surrounded by normal terminal hair area; no broken hairs, tapering hairs, black dots, yellow dots, and orifice loss from the trichoscopic examination; persistently without significant hair regrowth for 6 months after clinical or trichoscopical confirmation for vellus-hair existence, of which unnecessary biopsy of diagnosis confirmation could be evitable.

The 5-month treatment protocol was administered with a monthly injection of 2 ml PRP. Some improvement was demonstrated from 1\textsuperscript{st} to 5\textsuperscript{th} month and 1 month after last treatment [Figure 1b-e], with increasing number and thickness of vellus hairs by dermoscopic evaluation, but non-satisfactory of overall macrographic improvement due to recurrent hair loss at 6 months after treatment discontinuation.

**DISCUSSION**

Currently, treatment options for TTA are still limited. Topic and intralesional corticosteroids have not proved effective.\textsuperscript{[4,5]} Surgical resection and hair transplantation can achieve successful treatment with permanently cure.\textsuperscript{[6]} Despite unknown pathogenesis of TTA, there is evidence of local hair follicle miniaturization and vellus hair change without follicular inflammation similar to AGA.\textsuperscript{[7]}

In our case, the same PRP injection as in AGA was managed following its properties with several growth factors to induce perifollicular angiogenesis and proliferation of dermal papillary cells.\textsuperscript{[8]} While, recent evidence yielded the promising efficacy of PRP for the treatment of many hair loss disorders, including AGA, alopecia areata, and some of the cicatricial alopecia such as lichen planopilaris.\textsuperscript{[9]}

Despite some vellus hairs and hair regrowth from dermoscopic findings after 5 PRP injections, the overall clinical improvement was not satisfactory, with only a few improvements, incompatible to AGA, and recurrence of hair thinning after 6-month treatment discontinuation. Hence, PRP could not potentially yield a promising treatment outcome for TTA due to transient response and only a few improvements. Nevertheless, further investigation of TTA pathogenesis is recommended for the elucidation of better treatment outcomes and the development of feasible treatment modalities.

**Declaration of patient consent**

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

**Financial support and sponsorship**

Nil.

**Conflicts of interest**

There are no conflicts of interest.
REFERENCES

1. Trakimas CA, Sperling LC. Temporal triangular alopecia acquired in adulthood. J Am Acad Dermatol 1999;40:842-4.
2. Akan IM, Yildirim S, Aygi G, Aköz T, Karadayi N. Bilateral temporal triangular alopecia acquired in adulthood. Plast Reconstr Surg 2001;107:1616-7.
3. Inui S, Nakajima T, Itami S. Temporal triangular alopecia: Trichoscopic diagnosis. J Dermatol 2012;39:572-4.
4. Fernández-Crehuet P, Vaño-Galván S, Martorell-Calatayud A, Arias-Santiago S, Grimalt R, Cama­cho-Martínez FM. Clinical and trichoscopic characteristics of temporal triangular alopecia: A multicenter study. J Am Acad Dermatol 2016;75:634-7.
5. Yin Li VC, Yesudian PD. Congenital triangular alopecia. Int J Trichology 2015;7:48-53.
6. Chung J, Sim JH, Gye J, Namkoong S, Hong SP, Kim MH, et al. Successful hair transplantation for treatment of acquired temporal triangular alopecia. Dermatol Surg 2012;38:1404-6.
7. Karadağ Köse Ö, Güleç AT. Temporal triangular alopecia: Significance of trichoscopy in differential diagnosis. J Eur Acad Dermatol Venereol 2015;29:1621-5.
8. Li ZJ, Choi HI, Choi DK, Sohn KC, Im M, Seo YJ, et al. Autologous platelet-rich plasma: A potential therapeutic tool for promoting hair growth. Dermatol Surg 2012;38:1040-6.
9. Hesseler MJ, Sbyam N. Platelet-rich plasma and its utilities in alopecia: A systematic review. Dermatol Surg 2020;46:93-102.