

defect up to 4 cm in diameter, in my experience with such defects, this depends solely on the method of dissection chosen for elevating and advancing the IPF.

The bilevel tissue dissection that Chan<sup>7</sup> advocated more than 2 decades ago provides the reconstructive surgeon with a robust and highly mobile, obliquely orientated pedicle, enabling significant flap movement when executing a large IPF repair. The technique requires the presence of generous subcutaneous tissue, which is clearly present in the lower cheek and jowl region. Resurfacing a defect extending from the philtrum to beyond the apical triangle of the upper cutaneous lip has been readily achieved in my experience, using the “Method of Chan” to elevate the IPF, but for a large defect a degree of lateral displacement of the melolabial crease may occur, something that was preserved in the novel repair option that Bendeck and colleagues chose.<sup>1</sup>

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WALAYAT HUSSAIN, MRCP (UK), FRACP  
*Department of Mohs Micrographic Surgery,  
 Leeds Centre for Dermatology,  
 Chapel Allerton Hospital,  
 Leeds, UK*

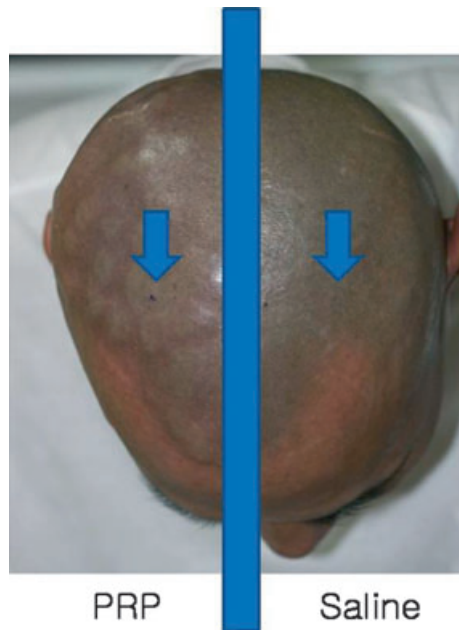
## Platelet-Rich Plasma for Treating Male Pattern Baldness

### Letter to the Editor:

Platelets are a natural source of growth factors such as platelet-derived growth factors, transforming growth factors, fibroblast growth factors, and vascular endothelial growth factors.<sup>1</sup> The in vitro effects of platelet-rich plasma (PRP)-derived growth factors on wound repair, differentiation and proliferation of adipose precursor cells, and angiogenesis are well documented.<sup>2</sup> Several recent reports suggest that PRP might enhance the growth of hair.<sup>3,4</sup>

A 38-year-old Korean man presented with and complained of M-pattern frontal recession and hair thinning. Prior treatment included oral finasteride and topical minoxidil, but the patient stopped the treatment because of decreased libido and irritant contact dermatitis.

With his request for other therapy, we suggested that he try PRP for his baldness. He was informed of the possible risks and expectations of the treatment, and written consent was obtained. Half of his scalp was injected with PRP and the other side with saline as a control (Figure 1). He received four treatments with PRP administered at 1-week intervals. The PRP was prepared with a small volume of blood (25 mL) extracted from a peripheral vein using a PRP kit (Prosys; TOZAI Holdings, Inc., Seoul, Korea) and centrifuged for 3 minutes at 1,000 g. The blood was separated into platelet-poor plasma (PPP), buffy coat, and red blood cells. Because PRP is a mixture of buffy coat and plasma, red blood cells were extracted from the kit. For further concentration, the separated fraction composed of PPP and buffy coat was centrifuged using the concentration kit for

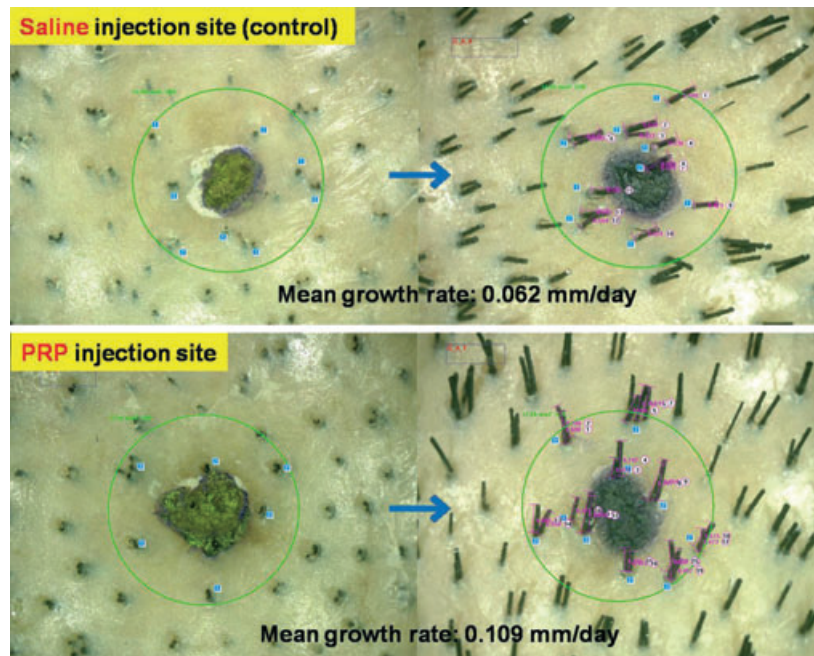


**Figure 1.** Treatment of male pattern baldness comparing platelet-rich plasma with saline.

3 minutes at 1,200 g. Approximately 4 mL of concentrated PRP was then withdrawn and injected into half of the scalp.

Photographs and phototrichograms (Folliscope; Lead-M Corporation, Seoul, Korea) of the patient were taken before each treatment session and 1 and 6 months after the last treatment. We observed increases in growth rate and hair density, although no changes in hair thickness were noted 6 months after PRP treatment (Figure 2). The patient experienced only temporary pain and swelling at the injection sites, and these symptoms disappeared within a day. After the final evaluation, we treated his control side with PRP according to his request.

The action of various growth factors on hair growth and cycle has been studied previously.<sup>4,5</sup> Uebel and colleagues<sup>4</sup> reported the effect of PRP-derived growth factors in male pattern baldness surgery, observing significant greater density of hair follicular units in the PRP-treated areas than in control areas of the scalp. Another recent report described the effect of PRP on enhancing hair growth. It showed that direct local administration of various growth factors in PRP might act on hair follicles and indirectly improve involution of



**Figure 2.** Improvements in hair density and growth rate with platelet-rich plasma treatment and saline injection.

the vascular plexus around the hair follicles.<sup>3</sup> Our findings support these previous reports.

This report documents the therapeutic response of male pattern baldness to PRP in a patient refractory to finasteride and minoxidil without complications. We suggest that PRP can be considered an alternative therapeutic modality for male pattern baldness, although further multicenter, randomized, blind, controlled studies are needed to assess the effectiveness and safety of PRP in a large number of patients.

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KUI YOUNG PARK, MD  
HYUN KYU KIM, MD  
BEOM JOON KIM, MD  
MYEUNG NAM KIM, MD

Department of Dermatology,  
Chung-Ang University College of Medicine,  
Seoul, South Korea

## Erratum

In the article “Complications of Penis or Scrotum Enlargement due to Injections with Permanent Filling Substances.” *Dermatol Surg* 2012 July 38(7:2) 1244-50, there was an error in the images for figure 3 as they were not ordered correctly. Image D should be A; images A and E should be B and C;

image C should be image D; and image B should be image E.

There was also a mistake in the legend of figure 2, where image B should be the outcome after 1 year, not after 1 week.