PLATELET-RICH FIBRIN (PRF) FOR HAIR LOSS

Jennifer T. Trent discusses why platelet rich fibrin is a robust alternative to PRP, minoxidil and finasteride for treating androgenic alopecia

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Patterned hair loss, or androgenic alopecia (AA), affects about 80 million Americans. It increases with age, with 40% being affected by 40 years age and 80% by 60 years of age. In the past, AA was believed to be solely hormone driven, but there has been a recent paradigm shift. The causes of AA are now known to be multifactorial. Stress, genetics, external forces like UV damage, internal causes such as poor nutrition, and inflammation play just as important a role as hormones.

Androgenic alopecia is a chronic and progressive condition with a paucity of good non-surgical treatment options with low side-effect profiles. There are only three FDA approved treatments available to treat AA, which are oral finasteride, topical minoxidil, and low dose laser therapy. While the medications, finasteride and minoxidil, have shown good results, they only treat one facet of the problem. Finasteride, a five alpha reductase inhibitor, was FDA approved for the treatment of AA in men only. It works by inhibiting the hormone that is responsible for hair loss in men. Unfortunately, It takes 12 months to see the full effects and it has to be used continuously to grow hair then maintain the hair you have grown. There are also unpleasant side-effects associated with finasteride, such as depression and sexual dysfunction. Topical Minoxidil has been approved to treat AA in men and women. It is a vasodilator that works by increasing blood flow to the scalp. Just like finasteride, minoxidil takes about 12 months to see the full-effects and must be used continuously. Minoxidil has been known to cause contact dermatitis, hypertrichosis and headaches. Low dose laser therapy (LDLT) can be used in both men and women. The light that is emitted increases blood flow, stimulates metabolism of the follicle, and prevents the buildup of DHT, which is the hormone responsible for hair loss. Unfortunately, it takes several months to see the full effects of LDLT and the treatments need to be done several times a week. Others also report irritation and dryness from the treatments.

While the above treatments help, it takes months to see the effects, and each treatment holds the risk of unpleasant side-effects. However, more recently platelet rich plasma (PRP) has shown good results in a shorter amount of time. PRP has been used for decades in dentistry, orthopedics and wound healing. PRP delivers growth factors via injection directly into the scalp to stimulate the anagen growth cycle of the hair follicle, as well as angiogenesis. Good results were seen with little to no downtime or side-effects.

Now, the next generation upgrade to PRP, which is platelet rich fibrin (PRF), has recently entered the scene for hair loss. It too has been utilized for years in dentistry, orthopedics, and wound healing. PRF is 100% natural without any of the additives that are in PRP. This is very attractive to people looking for a natural, minimally invasive treatment for hair loss. PRF is superior to PRP in that it contains more growth factors. It also contains stems cells and WBC that PRP does not. These aid in hair regrowth. Finally, PRF contains fibrin, which acts like a glue or scaffolding to hold the growth factors in place in the areas of the scalp that need help the most. Subsequently, these larger amounts of growth factors stay in place for a longer period of time, thereby allowing a slower, longer release of growth factors.

PRF is harvested similarly to PRP. Blood is removed from the patient and spun down in a centrifuge. This is where the similarity ends. PRF is spun in special plastic tubes, placed at a specific angle in the centrifuge, and spun at slower speeds for shorter period of time. This is what allows for the higher yield of growth factors, as well as stem cells and WBC's. These aid in tissue repair and regeneration. Since PRF contains no anticoagulant and has fibrin in it, it must be injected within 10 minutes, otherwise the fibrin will clot in the tubes and become unusable.

I began using ezPRF system for hair loss about 8 months ago and have seen good results. I perform the PRF injections monthly for 4 months, then quarterly for a year, then taper off based on the individual patient's results. I currently have several patients enrolled in a ezPRF hair loss study and the preliminary results look good. I have seen approximately 30% increase in hair

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counts. My hair loss protocol for my patients includes combining PRF with a potent neutraceutical, Nutrafol, which acts like fertilizer for the new hair growth, and minoxidil solution, to help increase blood flow to support the new hair. I believe in combination therapy for a complex multifaceted problem. It is also important to address any internal or external factors which could be contributing to hair loss, such as hair treatments/products, medications, underlying medical problems, and hair care practices. Everything needs to be optimized to ensure success. On a personal note, I use PRF on myself for my hair loss and have been thrilled with my results as well. I struggled for years with my own hair loss and am so happy I have something to help others with their hair loss.

PRF is also being used in esthetics for facial volumization with and without concomitant use of hyaluronic acid fillers and PLLA. It can be injected into the nasolabial folds, cheeks, tear troughs, and lips with either a Dermasculpt microcannula or needle. I prefer the microcannula because it decreases bruising and swelling and increases comfort for the patient. PRF has also been used after micro needling and laser treatments to enhance collagen building. Finally, it has been used in conjunction with Novathread lifts to enhance the results.

▶ ***For more information on ezPRF, visit: cosmofrance.net***

Figure 1 Before and after PRF for hair loss

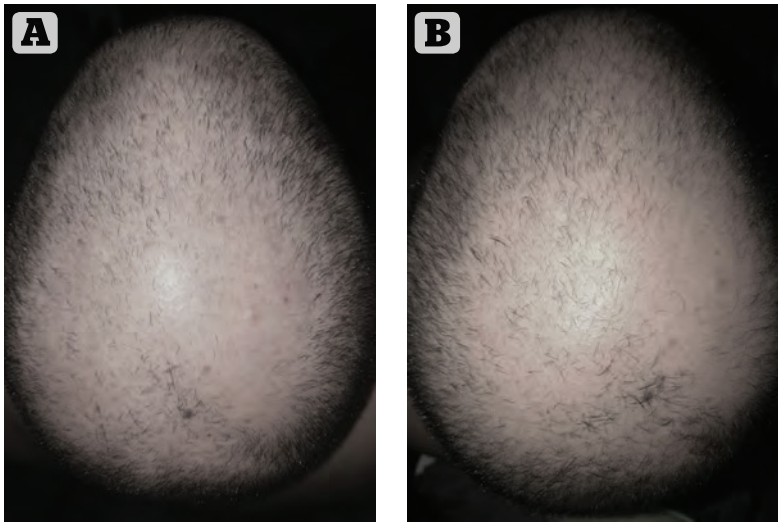

Figure 2 Before (A) and after (B) PRF for hair loss. Close up of the vertex of the scalp.

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