Novel treatments for hair regrowth

Where are we?

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Disclosures

- Consultant/Investigator for:
  - Aclaris
  - Samumed
  - Incyte
  - Applied Biology
  - Biologics MD
  - Replicel Life Sciences Inc.
  - RegenLab
  - Bioniz
Platelet-Rich Plasma (PRP) Treatment Protocol

Month 0
Assessment
PRP Treatment

Month 1
Assessment
PRP Treatment

Month 2
Assessment

No further PRP
Continue other treatments

*No Response* 
< 10 hairs/cm²

3/4/5/6 Month
Repeat assessment
PRP Treatment

*Response* 
≥ 10 hairs/cm²

PRP responses in androgenetic alopecia
Trichologic Responses are Time-Dependent

- Segregation of responders vs non-responders after 2 months
- Most benefit achieved within 2 to 4 months
- No shock loss
- Accepted for Publication JAAD 2018 epub Ho, Sukhdeo, LoSicco, Shapiro
PRP: Take Home Points

Can I use PRP with other treatments?

- No apparent downside to use PRP as combination therapy

What are the chances of it working?

- Nearly 3 out of 4 recipients of combination therapy show increased hair density

How much benefit can I expect?

- Average increase: +35 hairs/cm². No change in hair diameter.

Which people do worse with therapy?

- Patients with earlier-onset disease and lower baseline hair counts don’t respond as well

When will I see benefit?

- Usual response at 2-4 months, but may increase or decrease
When NOT to use PRP: presence of skin cancer on the head

Nodular BCC on the scalp
Microneedling Clinical Trial at NYU

- Split scalp; one side MN
- Both sides receive Minoxidil 5% foam bid
- Single blinded study
- Hair counts and diameters
- Treatment q 2 weeks for 20 weeks
Microneedling (MN)

Mechanisms of action:

• Neo-angiogenesis, growth factor production
• Breach of stratum corneum allows for more effective drug delivery
Microneedling

• Subjects were randomly allocated into 3 groups
  • Topical 5% minoxidil (group 1, n = 20),
  • Electrodynamic microneedle treatment (group 2, n = 20),
  • Electrodynamic microneedle treatment with topical 5% minoxidil (group 3, n = 20).

• Patients received microneedle treatments every 2 weeks, for a total of 12 times.

• The best therapeutic effect was observed in group 3: non-vellus and the total hair counts, the hair thickness, investigator assessment, and patient self-assessment
  • 80% of these patients showed greater than 50% improvement of hair growth
AGA : Oral Minoxidil

- Prospective, uncontrolled observational study of the safety and usefulness of a single, **once daily low-dose oral minoxidil (0,25mg)** in combination with spironolactone 25mg in the treatment of FPHL

- Most women noticed a reduction in hair shedding at 3 months and an increase in hair density at 6 months.

  - **HOW DO I USE?**

    - Minoxidil 0,625 mg once daily for patients that can’t use topical solution/foam
Alopecia Areata (AA): Janus Kinase inhibitors

- Oral JAK inhibitors including tofacitinib, baricitinib and ruxolitinib have been shown to be efficacious in AA
- The response to these medications may not be durable with most patients experiencing hair loss after discontinuation
- Topical JAK inhibitors may also be effective but have not been fully evaluated
AA: Topical JAK inhibitors

- **Topical JAK inhibitors**, associated with minimal systemic immunosuppression, already showed efficacy in an allergic dermatitis animal model, as well as in psoriasis and AD clinical trials, and may prove beneficial for AA, especially for limited disease.
Alopecia Areata (AA): PRP

An Overview of the Biology of Platelet-Rich Plasma and Microneedling as Potential Treatments for Alopecia Areata
Lauren C. Strazzulla¹, Lorena Avila¹, Kristen Lo Sicco¹ and Jerry Shapiro¹
Alopecia Areata (AA): PRP

- PRP may have the ability to induce a longer disease remission.
- Patients treated with PRP appeared to regrow pigmented hairs from the beginning of hair regrowth compared with 25% of those treated with TAC.
- Non-standardized treatment protocols and methods for assessing response make it challenging to adequately assess the potential benefit of the treatments.
Lichen Planopilaris (LPP): Naltrexone

- **Naltrexone**: 3mg daily, reduction of the symptoms

Recently, naltrexone an opioid antagonist with the greatest affinity for mu receptors, approved by the Food and Drug Administration for substance addiction treatment, has been suggested to be beneficial in treating autoimmune diseases.
Lichen Planopilaris (LPP): Naltrexone / Pioglitazone

• Low-dose naltrexone has demonstrated efficacy in the adjunctive treatment of Crohn’s disease, and multiple sclerosis. In the dermatologic setting, naltrexone has been used effectively for patients with severe pruritus.

• Side effects for a low-dose of this medication are generally mild and include vivid dreams, nightmares, headache, and increased anxiety.

• Pioglitazone may provide an additional anti-inflammatory benefit that compliments naltrexone, however unlike naltrexone, has no known effect on pruritus.
How do I prescribe?

- Naltrexone 3-4.5 mg per day (compound pharmacy)
- Pioglitazone (ACTOS) 15-30 mg per day