EA DV CONGRESS
AMSTERDAM 25-28 SEPTEMBER 2024
EUROPEAN ACADEMY OF DERMATOLOGY & VENEREOLOGY

Abstract N°: 6639

Clinical efficacy of platelet-rich plasma for the treatment of endocrine therapy-induced alopecia and permanent chemotherapy-induced alopecia in breast cancer patients: a randomized controlled pilot trial

Leore Lavin*[1]

[1]David H. Koch Center for Cancer Care at Memorial Sloan Kettering Cancer Center, New York, United States

Introduction & Objectives:

Persistent alopecia is a frequent adverse effect of chemotherapy and endocrine therapy in breast cancer patients, resulting in persistent chemotherapy induced alopecia (pCIA), or endocrine-induced alopecia (EIA). The addition of platelet-rich plasma (PRP) to topical minoxidil 5% has been shown to induce significant hair growth in women with female patterned androgenetic alopecia (Alves 2018). However, the efficacy of PRP for pCIA and EIA has not been demonstrated under a randomized trial design. This randomized controlled pilot study evaluated the efficacy and safety of PRP in breast cancer survivors.

Materials & Methods:

Female breast cancer survivors ≥ 18 years old, with EIA or pCIA, who had failed a prior alopecia therapy with topical minoxidil 5% BID and / or spironolactone 200 mg per day, were enrolled. Patients had either the right or left scalp side randomly assigned to PRP treatment and received two micropigmentation tattoos on their frontal scalps to standardize trichoscopic evaluation. Participants received 3 monthly PRP injections, with scalp evaluation at baseline,weeks 12 and 24. Primary outcome measures were the difference between treatment and observation sides of the scalp assessed by a blinded dermatologist using the 7-point Global Assessment Score (GAS) (scale -3 (greatly decreased from baseline) to +3 (greatly increased from baseline), as well as the difference of treated side from baseline to weeks 12 and 24. Secondary outcome measures were adverse events, patient-reported quality of life (QoL) by Hairdex questionnaire and trichoscopic data.

Results:

15 EIA and 11 pCIA patients with mean Ludwig grade of 1.7 (range: 1-3) completed week 12 evaluation. Comparing treated and untreated sides, GAS scores were comparable at weeks 12 and 24. However, at week 12, 20 and 19 of 26 patients on treated and control sides, respectively, showed slight, moderate or great improvements in scalp coverage ($p < 0.001$), and at week 24, 22 of 25 patients on both treated and control sides saw slight, moderate or great improvements in scalp coverage compared to baseline ($p < 0.001$). On the treated side, trichoscopic values of total hair shaft number increased (133 (SD=62) to 153 (SD=71) to 161 (SD=65) hairs/cm2, $p<0.05$) from baseline to weeks 12 and 24, respectively. Hairdex score decreased, indicating a non-significant improvement in QoL (41.1 to 39.4 to 39.8, $p>0.05$) from baseline to weeks 12 and 24, respectively. The entire cohort of 26 patients experienced scalp pain; most being reported as mild or moderate in severity. No patients dropped out of the study due to pain or adverse events.

Conclusion:

This randomized pilot study demonstrated that PRP is well tolerated and may alleviate alopecia in breast cancer patients induced by chemotherapy or endocrine therapy. Further study under an adequately powered randomized comparative trial is warranted.