

## Evaluating the Effectiveness of Mesotherapy and Topical 2% Minoxidil for Androgenic Alopecia in Females, Using Topical 2% Minoxidil as a Common Treatment

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**Abstract :** Androgenic alopecia (AGA) is a common form of hair loss, impacting approximately 50% of females, which leads to reduced self-esteem and quality of life. It causes progressive follicular miniaturization in genetically predisposed individuals. Mesotherapy -- a minimally invasive procedure, topical 2% minoxidil, and oral finasteride have emerged as popular treatment options in the realm of cosmetics. However, the efficacy of mesotherapy compared to other options remains unclear. This study aims to assess the effectiveness of mesotherapy when it is added to topical 2% minoxidil treatment on female androgenic alopecia. Mesotherapy, also known as intradermotherapy, is a technique that entails administering multiple intradermal injections of a carefully composed mixture of compounds in low doses, applied at various points in close proximity to or directly over the affected areas. This study involves a randomized controlled trial with 100 female participants diagnosed with androgenic alopecia. The subjects were randomly assigned to two groups: Group A used topical 2% minoxidil twice daily and took Finasteride oral tablet. For Group B, 10 mesotherapy sessions were added to the prior treatment. The injections were administered every week in the first month of treatment, every two weeks in the second month, and after that the injections were applied monthly for four consecutive months. The response assessment was made at baseline, the 4th session, and finally after 6 months when the treatment was complete. Clinical photographs, 7-point Likert scale patient self-evaluation, and 7-point Likert scale assessment tool were used to measure the effectiveness of the treatment. During this evaluation, a significant and visible improvement in hair density and thickness was observed. The study demonstrated a significant increase in treatment efficacy in Group B compared to Group A post-treatment, with no adverse effects. Based on the findings, it appears that mesotherapy offers a significant improvement in female AGA over minoxidil. Hair loss was stopped in Group B after one month and improvement in density and thickness of hair was observed after the third month. The findings from this study provide valuable insights into the efficacy of mesotherapy in treating female androgenic alopecia. Our evaluation offers a detailed assessment of hair growth parameters, enabling a better understanding of the treatments' effectiveness. The potential of this promising technique is significantly enhanced when carried out in a medical facility, guided by appropriate indications and skillful execution. An interesting observation in our study is that in areas where the hair had turned grey, the newly regrown hair does not retain its original grey color; instead, it becomes darker. The results contribute to evidence-based decision-making in dermatological practice and offer different insights into the treatment of female pattern hair loss.

**Keywords :** androgenic alopecia, female hair loss, mesotherapy, topical 2% minoxidil

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