**Treatment of Melasma with amber LED compared to tranexamic acid**

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**Abstract**

Statement of the Problem: Facial Melasma (FM) is a chronic pigmentation disorder difficult to solve. It affects women and their self-esteem. In vitro studies of photobiomodulation (PBM) with amber light showed inhibition of the tyrosinase and reduction of melanin content. The aim of this study will be to evaluate the effect of PBM with amber light in the treatment of FM compared to tranexamic acid. Methodology: The study will be controlled, randomized and double-blind. The sample will be divided into 2 groups: One will receive amber LED and placebo topical cosmetic for home use; two will receive PBM sham and topical liposomal tranexamic acid for home use. Weekly sessions for 12 weeks and cosmetic use also for this period complete the protocol. Women aged 35 to 50 years, phototypes II to IV and who have FM will be included. The use any oral contraceptive, IUD, hormone replacement, autoimmune disease, use of photosensitive drugs or receiving facial treatments in the 3 months prior to the study will be exclusion criteria. The severity of FM will be evaluated through Melasma Area and Severity Index, epidermis pigmentation will be evaluated by corneomelametry, photographic records and the quality of life questionnaire (MELASQoL-BP) will also be analyzed. Assessments will be made before the start of the study, at week six, and after completion of treatment. Conclusion & Significance: This study may bring important information regarding the use of PBM in FM treatment.

The study was approved by the ethics committee of Universidade Nove de Julho under no. 5,332,384 on April 5, 22. Clinical Trials no. NCT05326997 on 04/14/22. Hs study is not recruiting yet.



**Biography**

Graduated in Dentistry at Universidade Metodista de São Paulo (1998) and Biomedicine at Universidade Nove de Julho (2021). Master's student fellow in Biophotonics applied to Health Sciences (UNINOVE). Specialist in Orthodontics, Ozone Therapy and Orofacial Harmonization in Dentistry and Specialist in Aesthetics, Ozone Therapy in Biomedicine.

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