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Clinical Image

Dupilumab Treatment in Adult Onset Atopic Dermatitis

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CLINICAL IMAGE

Topical Photodynamic Therapy (PDT) applications have been increasing on dermatological fields on skin diseases as well as in cosmetic procedures. Currently, PDT in dermatology for cosmetic procedures using 5-aminolevulinic acid (ALA) for application is done in elevated concentrations and often is followed by several side effects due to elevated inflammatory process. However the inflammatory response level depends not only of ALA concentration but incubation time (that increases the PPXI production) and fluencies of laser/LED irradiation. The photodynamic reaction follows when light interacts with protoporphyrin IX (PPIX), which is produced on skin through ALA application in the presence of oxygen on tissue. After that oxygen's species formation resulting in an increase of the inflammatory response characterized by additional side effects. The goal of study is to demonstrate an alternative procedure to perform topical PDT using ALA in small concentrations for cosmetic purposes on aesthetic procedures now defined by us as Photodynamic Cosmetic Therapy (PDTC) that combines both benefits from Phototherapy and PDT with controlled adverse effects. The studies were performed in human volunteers using ALA in different concentrations (2% and 20%) and fluencies using laser/led red irradiation ranging from 25 to 150J/cm^2 with the same incubation time of 1 h after micronnedling procedure. The inflammation process after procedure was monitored by grade of severity as well as its benefits on wrinkles reduction and quality of skin. The results show that there is a threshold light dose to perform Photodynamic cosmetic therapy, using low concentrations of ALA and fluencies, where the side effects due to inflammatory process are controlled and the results on skin rejuvenation can be observed. These results can be useful to optimize topical PDT for cosmetic purposes on aesthetic procedures applications with safety and efficacy given opportunities to other non-medical professionals to work with PDTC.

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Figure 1a,b,c: Before Dupilumab treatment (SCORAD 92.15).

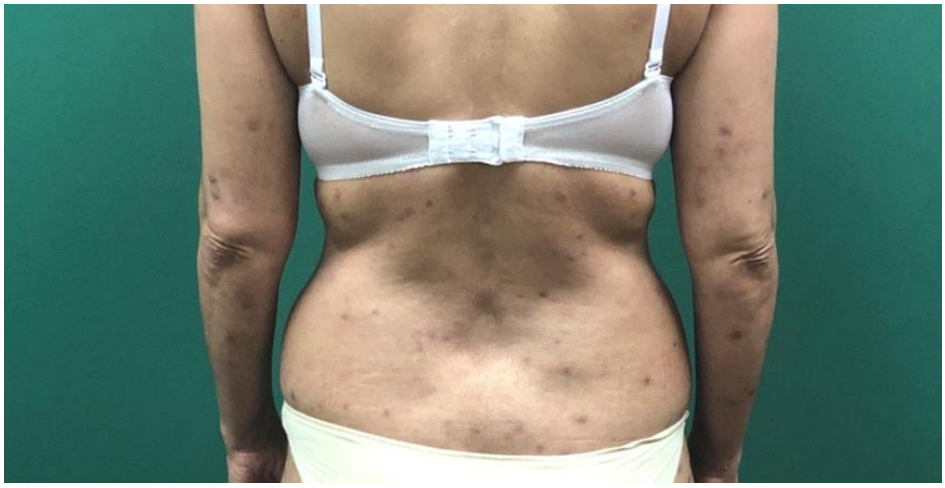

Figure 2a,b,c: After 8 doses of Dupilumab (SCORAD 18.5).