

## **VITAMIN C TO IMPROVE SKIN CONDITIONS: STILL A CHALLENGE FOR OILY SKIN**

**Introduction:** To stabilize topical vitamin C formulations it is common to use anhydrous or oil based formulas, which makes difficult the prescription to patients with oily or acne-prone skin.

**Objectives:** Thus the aim of this study was to evaluate the stability and efficacy of a water based formula containing vitamin c to improve skin conditions of patients with oily skin.

**Materials and Method:** The formula containing ascorbic acid, ethyl ascorbic acid, ferulic acid, mandelic acid, succinic acid, salicylic acid and mangiferin was initially submitted to dosage of actives under temperature stress for 90 days. Then, an ex vivo study was performed with the Fontana-Masson method to evaluate the reduction of melanic pigmentation after exposure to visible light and pollution. 23 volunteers with oily skin applied the serum daily for 56 days and sebum, wrinkles, pores, spots and erythema were evaluated. The comedogenic and acneogenic potential was also evaluated.

**Results:** The formula remained stable after 90 days of temperature stress (less than 5% in vitamin C concentration lost). In the ex vivo study, the formula significantly reduced melanic pigmentation protecting against visible light and pollution. Clinical study showed significant reduction on skin oiliness after 28 days of use. Significant reduction of blemishes, wrinkles, and number of pores were observed after 28 and 56 days. The formula did not show comedogenic and acneogenic potential.

**Conclusions:** The water base formula was stable once preserved the vitamin C concentration under temperature stress. The studied formula was able to significantly improve skin conditions and reduced oiliness of oily skin panel. This study showed important results about the use of vitamin C in patients with oily skin, suggesting that in the right vehicle vitamin C could be prescribed to this type of skin to improve skin conditions.