

Cosmetic & Pharmaceutical Research > Cosmetic & Pharmaceutical Research > Other material

2

Comparative instrumental evaluation of efficacy and safety between a binary and a ternary system in chemexfoliation.

Cameli N, Mariano M, Ardigò M, Corato C, De Paoli G, Berardesca E. *J Cosmet Dermatol.* 2017 Sep 20. doi: 10.1111/jocd.12424.

ABSTRACT

OBJECTIVE:To instrumentally evaluate the efficacy and the safety of a new ternary system chemo exfoliating formulation (water-dimethyl isosorbide-acid) vs traditional binary systems (water and acid) where the acid is maintained in both the systems at the same concentration. **METHODS:**Different peelings (binary system pyruvic acid and trichloroacetic acid-TCA, and ternary system pyruvic acid and TCA) were tested on the volar forearm of 20 volunteers of both sexes between 28 and 50 years old. The outcomes were evaluated at the baseline, 10 minutes, 24 hours, and 1 week after the peeling by means of noninvasive skin diagnosis techniques. In vivo reflectance confocal microscopy was used for stratum corneum evaluation, transepidermal waterloss, and Corneometry for skin barrier and hydration, Laser Doppler velocimetry in association with colorimetry for irritation and erythema analysis. **RESULTS:**The instrumental data obtained showed that the efficacy and safety of the new ternary system peel compounds were significantly higher compared with the binary system formulations tested. The new formulation peels improved chemexfoliation and reduced complications such as irritation, redness, and postinflammatory pigmentation compared to the traditional aqueous solutions. **CONCLUSION:**The study showed that ternary system chemexfoliation, using a controlled delivery technology, was able to provide the same clinical effects in term of stratum corneum reduction with a significantly reduced barrier alteration, water loss, and irritation/erythema compared to traditional binary system peels. © 2017 Wiley Periodicals, Inc. **KEYWORDS:**barrier function; chemical peeling; reflectance confocal microscopy; skin irritation; transepidermal water loss PMID: 28940586 DOI: 10.1111/jocd.12424