

Bakuchiol and Niacinamide a safe association to improve skin aging comparing with Retinol

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INTRODUCTION

Bakuchiol has become a popular active for cosmeceutics to treat different skin conditions once it has demonstrated functional similarities to retinoids, without the limiting side effects^{1,2,3}. However, further studies are necessaires to prove clinicals visible results of its innovative natural ingredient. Also, no studies have evaluated skin benefits of Bakuchiol associated with Niacinamide in high concentration, a multifunctional active ingredient with established use in dermatology.

OBJECTIVE

The aim of this study was evaluating the clinical safety and efficacy of a bakuchiol and niacinamide formula, also compared with a retinol 0.3% market product.

METHODS

Initially, the studied formula containing bakuchiol 1% and niacinamide 10% was tested to evaluate sensitization, photo irritant and photosensitizing in sensitive and rosacea skin. *In vitro* studies evaluated the EGF factor in accelerating epidermal regeneration and stimulating cell renewal in human skin fragments⁴. Clinical evaluations were conducted with 20 subjects for 8 weeks. A facial photograph system was used to evaluate blemishes, skin tone, wrinkles, redness and pores, at 0, 4 and 8 weeks. A second clinical trial was conducted to compare the benefits of studied formula with a market 0,3% retinol product, for 8 weeks, following the same study parameters.

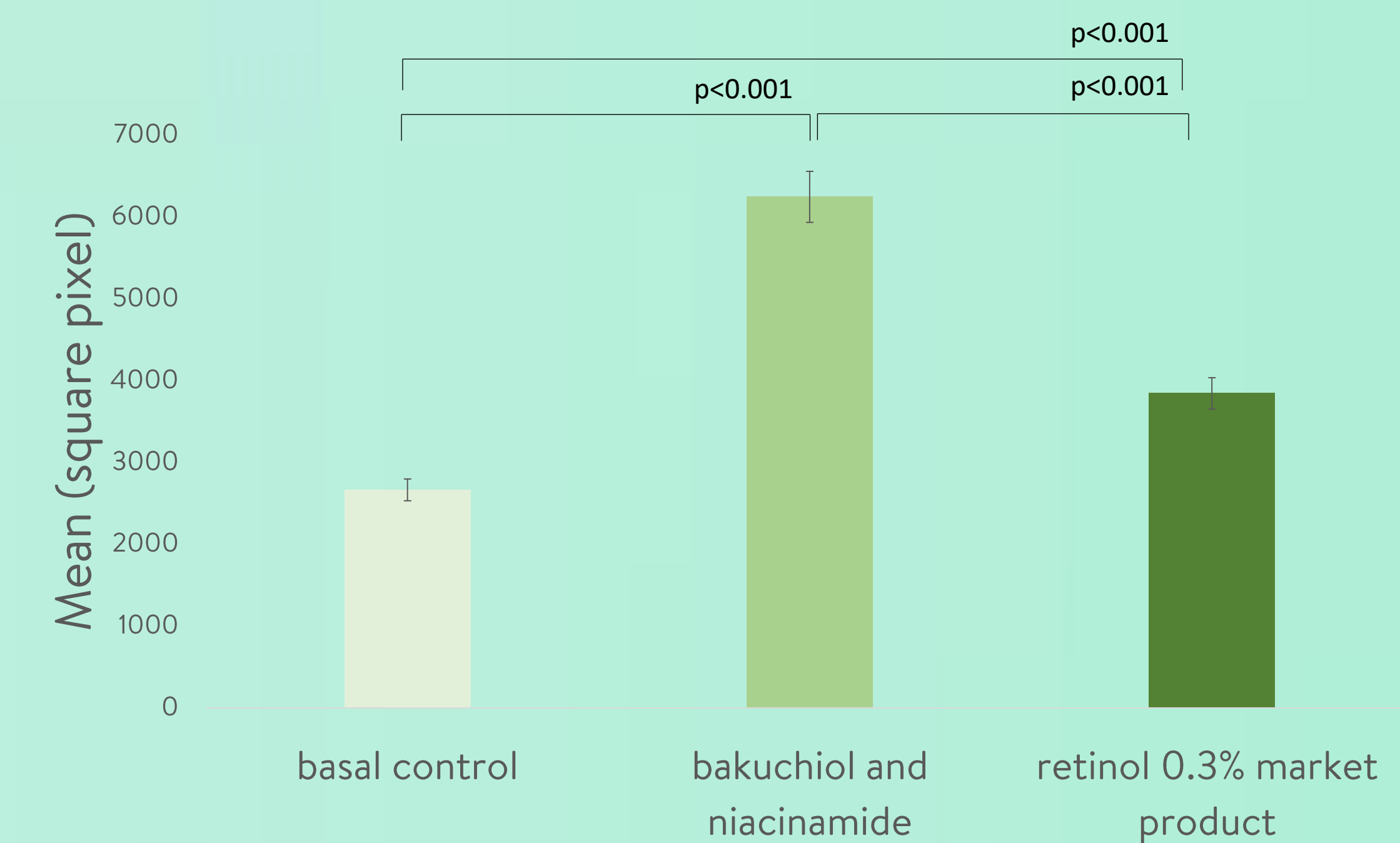
RESULTS

The bakuchiol formula did not induce skin irritation, neither caused photo irritation nor photosensitization, when tested in sensitive and with rosacea skin. Rosacea patients did not have flare-ups. The *in vitro* study demonstrated that, when compared to the basal control group, the formula with bakuchiol and niacinamide promoted a significant increase ($p < 0.001$) of 134% versus 44% for the retinol 0.3% market product over the EGF synthesis in human skin fragments. These results suggested that both formulas have potential cell renewal action, with superiority for the formula with bakuchiol and niacinamide (Graph. 1, Fig. 1). Clinical studies showed a statistically improvement on skin condition, reduction of blemishes and evening skin tone, reduction on number of wrinkles and pores, without the increase of redness. After image analysis, a significant lightening of the spots under UV light (melanosis) was observed with a reduction of 8% in the number of spots, a reduction of 19.70% of red spots (skin erythema) and 2.56 % of wrinkles, statistically significant ($p < 0.05$), after 8 weeks treatment (Fig. 2).

CONCLUSIONS

These results demonstrated the benefits of bakuchiol and niacinamide association, showing that these actives could be used to improve skin conditions, and reduce different signs of aging, in patients with sensitive skin and rosacea, without unwanted effects. The studied formula presented clinical benefits like retinol, a retinoic acid derivative, without the known side effects.

REFERENCES: 1-Jordan V Wang, Elizabeth Schoenberg, Nazanin Saedi. Bakuchiol as a Trendy Ingredient in Skincare: RecentEvidence. *Skinmed* 2019 Sep 9;17(3):188-189. 2-S. Dhaliwal ET AL., Prospective, randomized, double-blind assessment of topical bakuchiol and retinol for facial photoaging. *Br J Dermatol* 2019 Feb;180(2):289-296. 3-Lidia Brownell et al., A Clinical Study Evaluating the Efficacy of Topical Bakuchiol (UP256) Cream on Facial Acne. *J Drugs Dermatol* 2021 Mar 1;20(3):307-310. 4-Baumann L. *Cosmetic dermatology principles and practice*. New York: McGraw-Hill, 2002: 155–172.



Graphic 1. Quantification of the increase in EGF synthesis in human skin fragments incubated for 72 hours with studies formulas and basal control.

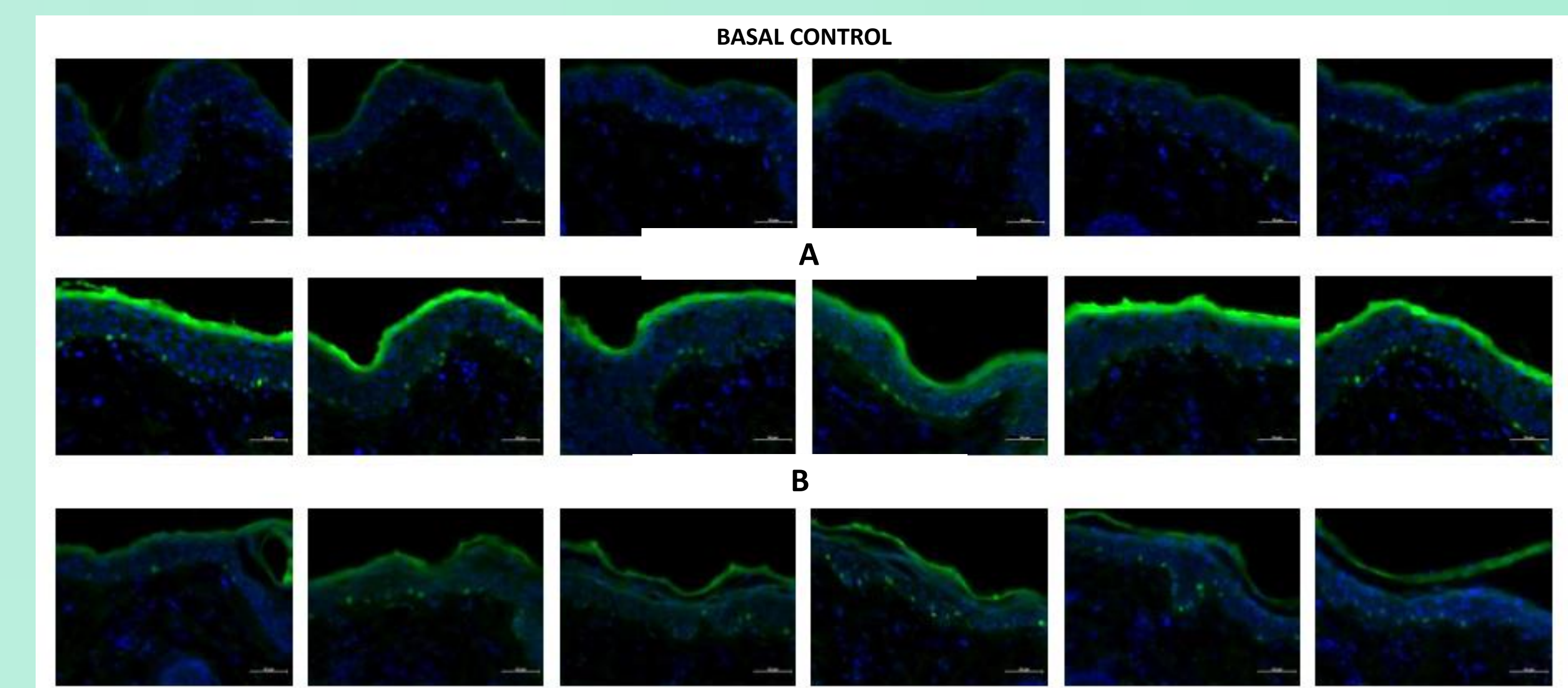


Figure 1: Representative images of the increase in EGF synthesis in human skin fragments: Basal control, Bakuchiol and niacinamide (A), Retinol 0,3% (B).



Figure 2: Representative images of clinical benefits by image analysis, before and after 8 weeks of use of bakuchiol and niacinamide formula, emphasizing reduction on red spots (A), wrinkles (B) and skin melanosis (C).

The comparative study showed that the bakuchiol formula presented similar clinical benefits to a retinol 0.3%.