Clinical evaluation of two topical products containing blueberry extract, purple rice extract and pro-xylane in combination in Chinese female with mild-to-moderate facial aging

Zhenfeng Liu[1], Bin Yang[1] , Fei Liu[2], Zhitao Liu[2*]

1 Dermatology Hospital of Southern Medical University, Guangzhou, China； 2 SkinCeuticals, Shanghai, China

*Corresponding author: Zhitao Liu, Scotty.liu@loreal.com

Background

Facial aging is always a major problem in dermatology and aesthetic surgery. Blueberry extract and pro-xylane can inhibit the production of advanced glycation end products (AGEs) and promote the production of mucopolysaccharides. Purple rice extract can inhibit hyaluronic acid loss. Thus, a combination of two topical products containing blueberry, purple rice extract and pro-xylane may play a role in facial aging.

Objective

To evaluate the efficacy and satisfaction of two topical products containing blueberry extract, purple rice extract and pro-xylane (test product) for improving.

Introduction

Facial aging has caused serious troubles to patients' lives， which is characterized by fine lines around the eyes, mouth, cheeks, skin laxity and lack of elasticity[1]. With aging, the number of advanced glycation end products (AGEs) increases, affecting every cell type in the body. The pathological effects of AGEs include increasing vascular permeability, inhibiting vasodilatation by interfering with nitric oxide, oxidizing LDL and inducing cytokine secretion[2]. All these factors increase oxidative stress and thus promote aging. Blueberry extract can inhibit the production of AGEs. Pro-xylane may mediate epidermal homeostasis[3]. These effects result in younger appearing skin, as the synthesis of GAGs increases the water binding capacity of the dermis and growth factors stimulate cell turnover.

Currently, no clinical research has been published on the use of blueberry extract, pro-xylane and purple rice extract in the Chinese population. Thus, our study aimed to evaluate the efficacy and satisfaction of two topical products containing blueberry extract, purple rice extract and pro-xylane (test product) for improving facial aging in Chinese subjects with mild-to-moderate facial aging.

Materials/method

A prospective, randomized split-face, controlled trial was conducted with 49 Chinese female participants with mild-to-moderate facial aging aged 25-55 years. One side of the face was randomized to receive test product and the other side to be treated with control product, twice daily for 12 weeks. Stratum corneum water content, Transepidermal water loss (TEWL), Skin elasticity (R5), Skin tightness (R3) were detected on both sides at baseline, day 14, day 28, day 56, and day 84. Clinical assessments of wrinkles by physicians and participants' satisfaction questionnaire were also collected.

Results

Compared to control side, test product-treated side showed better improvement in Stratum corneum water content , TEWL, Skin elasticity (R5) and Skin tightness (R3) at day 14, day 28, day 56, and day 84. Compared to baseline, the increase rates of Stratum corneum water content and Skin elasticity (R5) were 74.81%, 45.24% respectively, and the decrease rate of TEWL and Skin tightness (R3) were 20.20%, 27.03%, respectively on the test product-treated sides at day 84. Compared to baseline, Clinical assessments values of wrinkles around the corners of the eyes, under the eyes, around the corners of the mouth and fine lines on the forehead were reduced by 12.64%, 17.63%, 21.21% and 19.69%, respectively on the test product-treated sides at day 84. Participants were 100% satisfied after 84 days of using the test product.

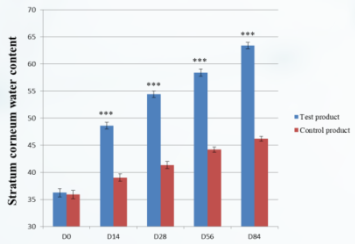

Figure 1. Stratum corneum water content was measured at baseline, day 14, day 28, day 56 and day 84. The P values were calculated using Student's t test. ***P < .001, compared with control product.

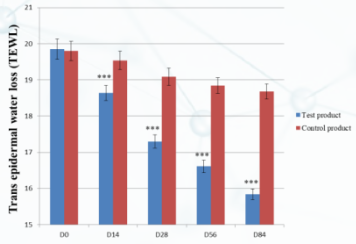

Figure 2. Transepidermal water loss (TEWL) was measured at baseline, day 14, day 28, day 56 and day 84. The P values were calculated using Student's t test. ***P < .001, compared with control product.

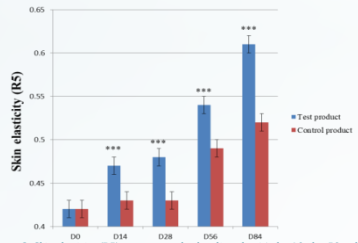

Figure 3. Skin elasticity (R5) was measured at baseline, day 14, day 28, day 56 and day 84. The P values were calculated using Student's t test. ***P < .001, compared with control product.

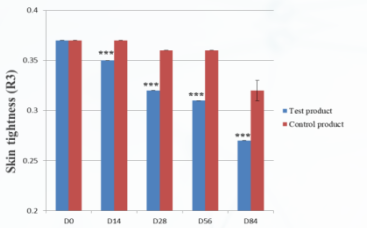

Figure 4. Skin tightness (R3) was measured at baseline, day 14, day 28, day 56 and day 84. The P values were calculated using Student's t test. ***P < .001, compared with control product.. (Lower skin tightness R3 values indicate tighter skin)

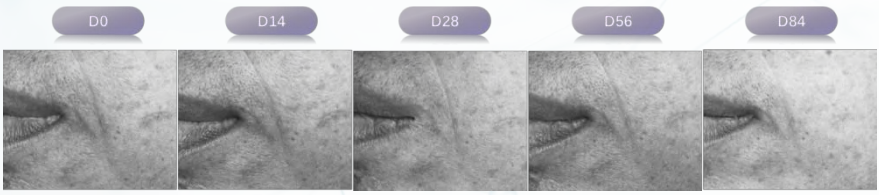

Figure 5. Effective cases for the improvement of wrinkles around the mouth.

Conclusion

Application of the combination of two topical products containing blueberry extract, purple rice extract and pro-xylane is an effective method for improving facial aging in Chinese population.

References