

Hydroporation with Jetpeel Dermalinfusion – an analysis of efficacy

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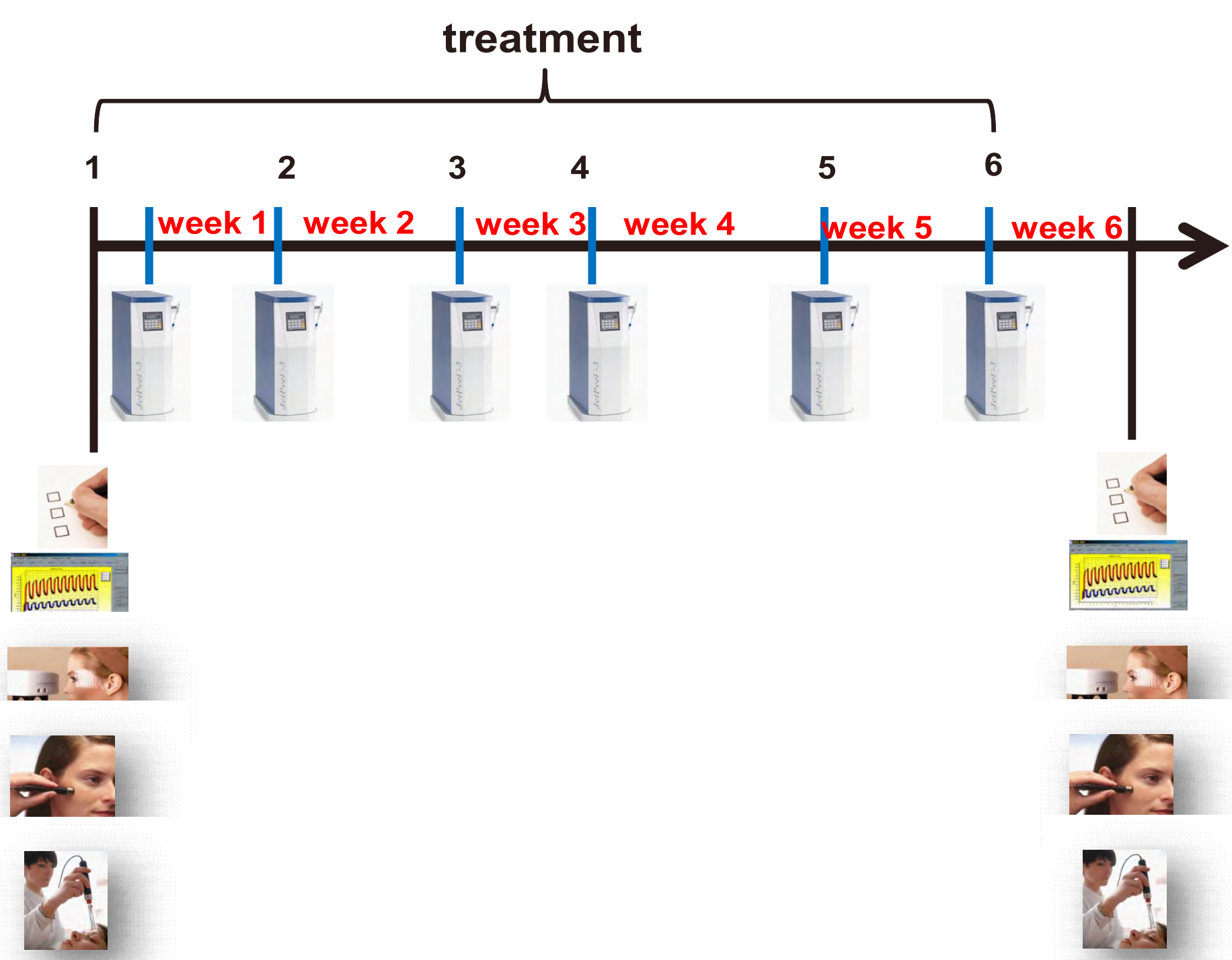
Introduction

Beautiful skin causes in physical attractiveness. Therefore cosmetic procedures should optimize parameters like skin glow and elasticity. Jetpeel is a device for cosmetic resurfacing of the facial skin. It is based on a technology of a 2-phase stream that creates a jet composed of high pressure air flux delivery, including oxygen, mixed with different chemical compounds such as microdroplets of saline or for example antioxidants, vitamins and hyaluronic acid accelerated to supersonic velocities. This jet impacts the skin, causing gentle and accurate cosmetic peeling. In this half side, randomized controlled split face trial we evaluated the effects of a new hydroporation method.

Methods & material

In this randomized, double-blind, half-side comparison of 6 weeks duration 20 healthy females (aged 20 - 45 years) with signs of skin aging were randomized to receive a treatment with a hyaluronic acid solution applied with the Jetpeel (figure 2) at one side of the face and a saline peeling at the contralateral side. Efficacy was assessed at baseline and after treatment using a subject questionnaire. Additionally biophysical assessments of surface topography (Primos®, GF Messtechnik GmbH, Berlin, Germany), skin elasticity (Cutometer® MPA 580) and skin hydration (Corneometer® CM 825) were also performed. To evaluate the tolerance of the treatment pH-value (Skin-pH-Meter® PH905), transepidermal waterloss (Tewameter® TM 300, all Courage & Khazaka, Cologne, Germany) were performed and furthermore subjects were asked to keep a project diary. Pictures were performed by using Visia System (Canfield, Fairfield, USA)

Study design



▲ Fig. 1: Treatment and evaluation course

Results

After 6 treatments using saline solution and delivering by hyaluronic acid with Jetpeel skin quality improved in all subjects. There was a clinical improvement of wrinkle severity according to the evaluation of skin topography. Skin netto elasticity increased by 14,8%, brutto elasticity by 4,8%. Skin surface hydration evaluated by corneometry improved from 63,64 to 65,05. Results of the subject questionnaire showed a significant time effect for skin sensation ($p = 0,005$), skin glow ($p \leq 0,001$), skin smoothness ($p = 0,02$) and skin hydration ($p = 0,001$). 95% of subjects were delighted with the treatment. There were no reported side effects, moreover pH value and transepidermal waterloss remained in physiological range over the entire study period.



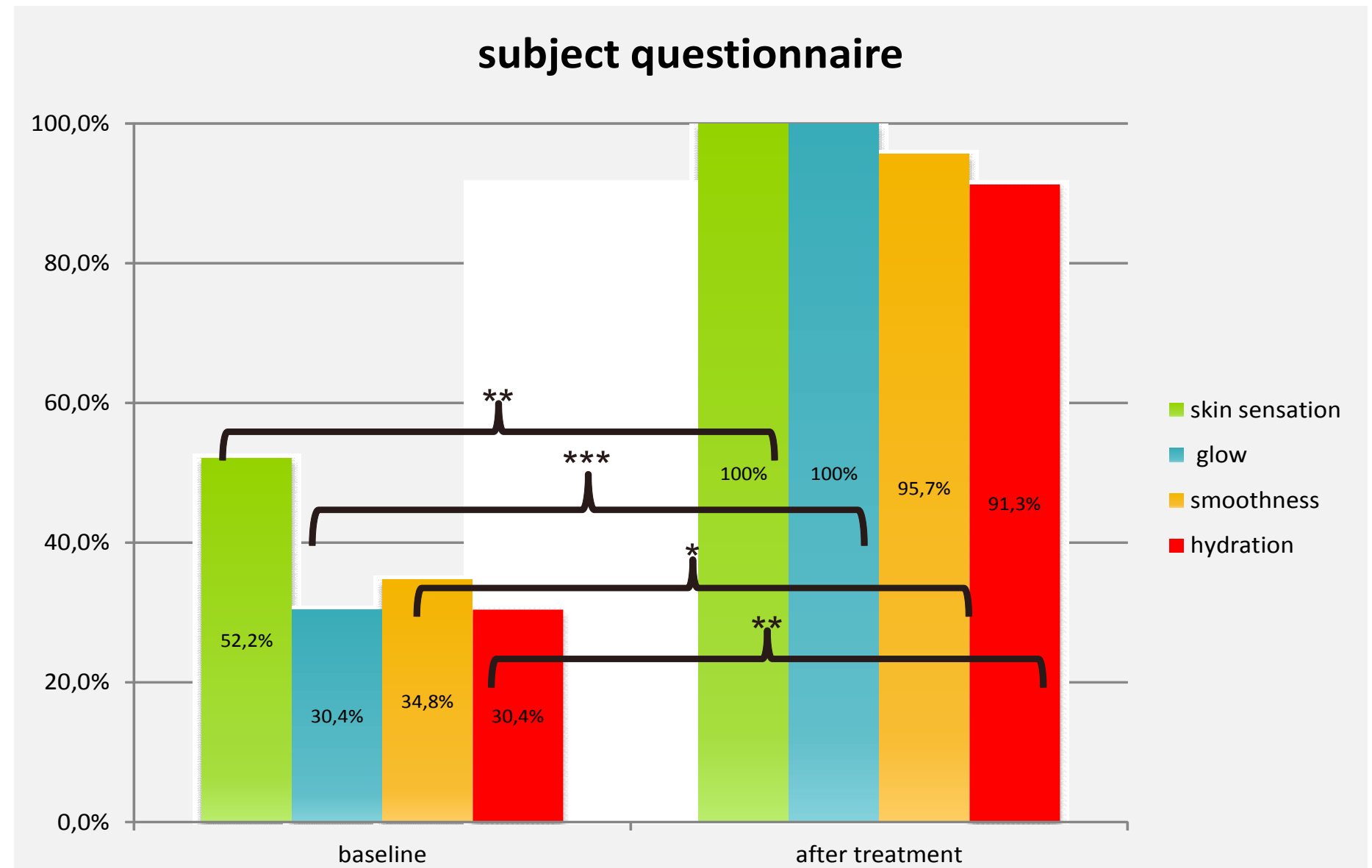
▲ Fig. 2: Treatment with Jetpeel



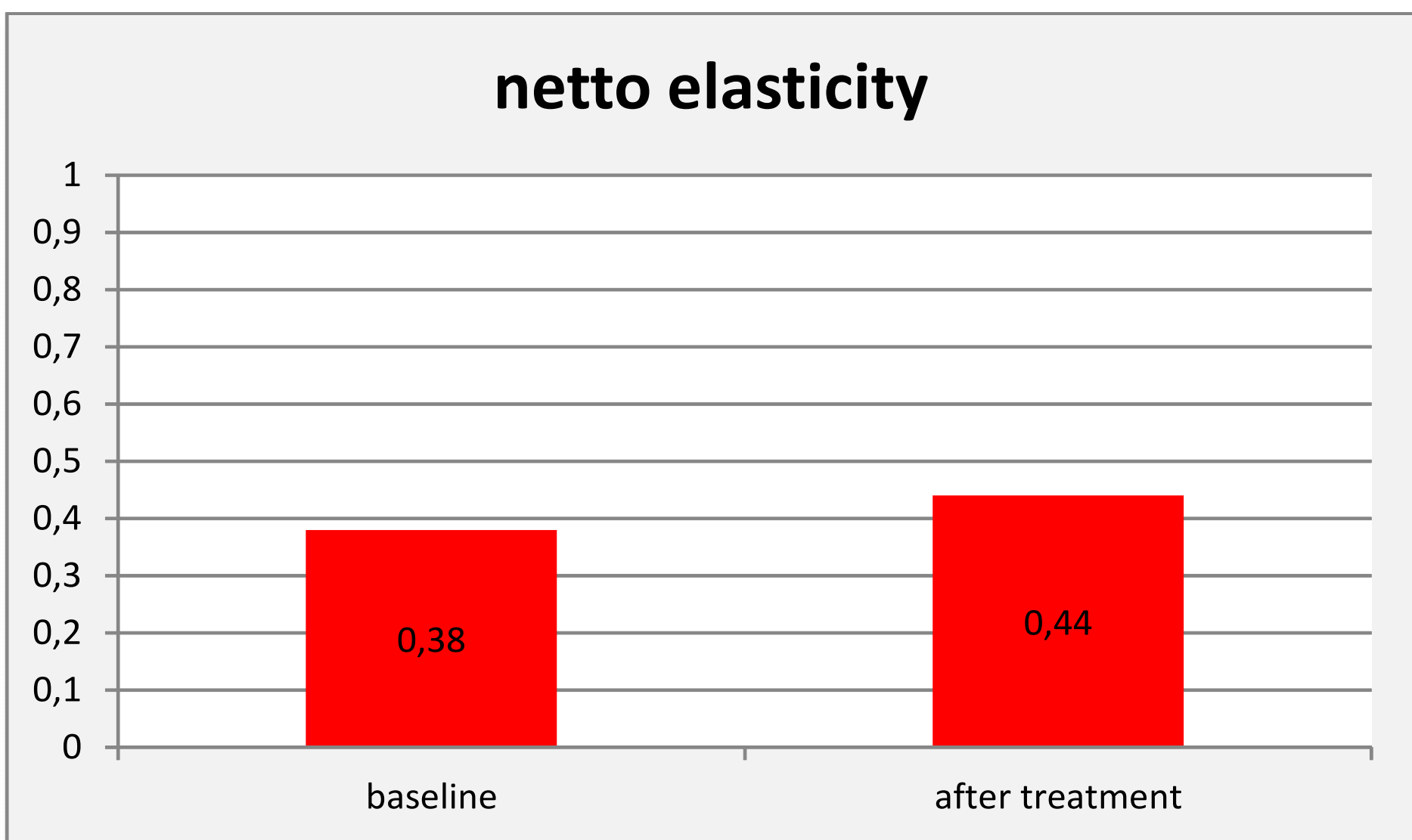
▲ Fig. 3: standardized photography at a) baseline and b) after a six week treatment with Jetpeel



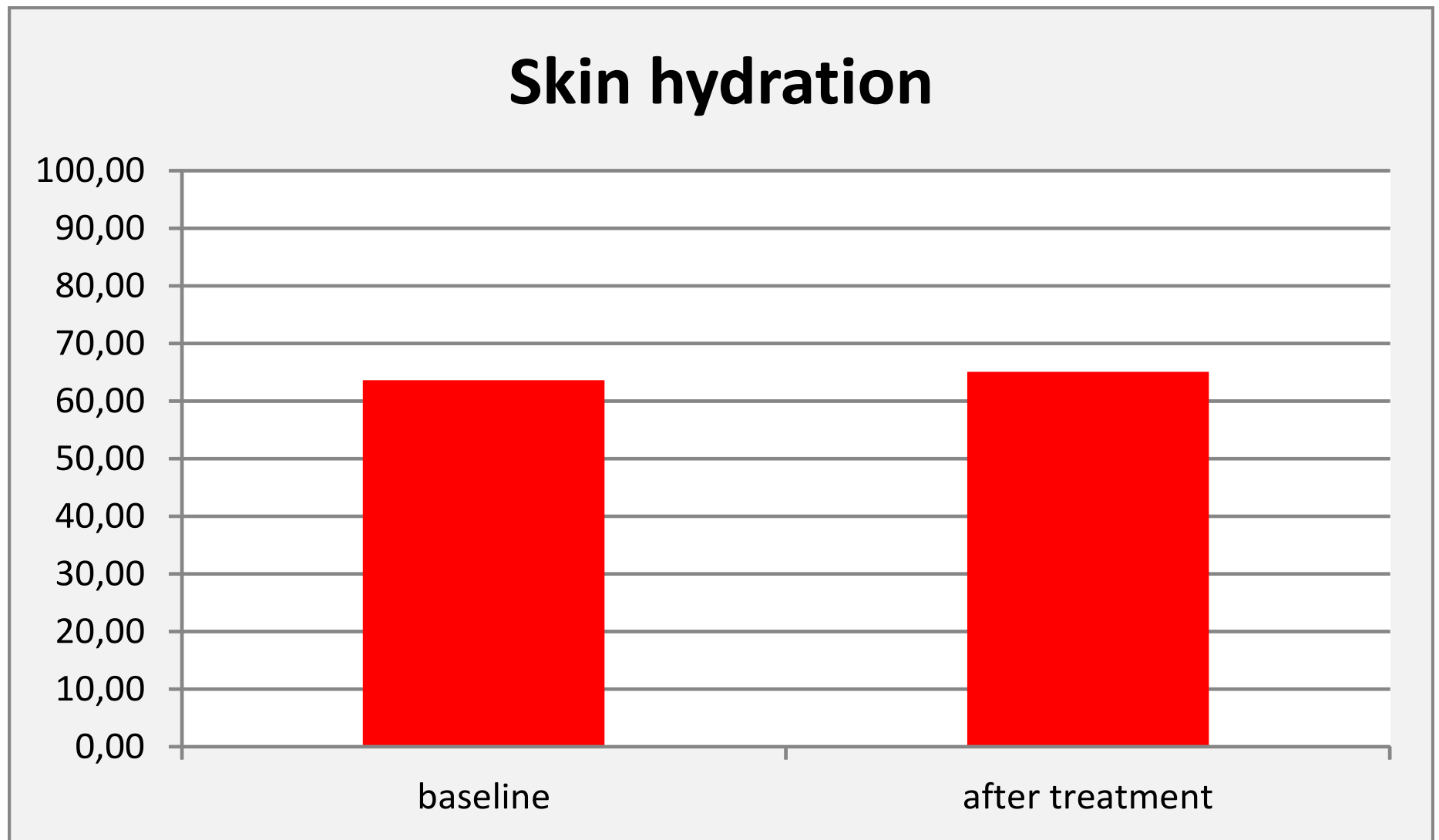
▲ Fig. 4: standardized photography at a) baseline and b) after a six week treatment with Jetpeel



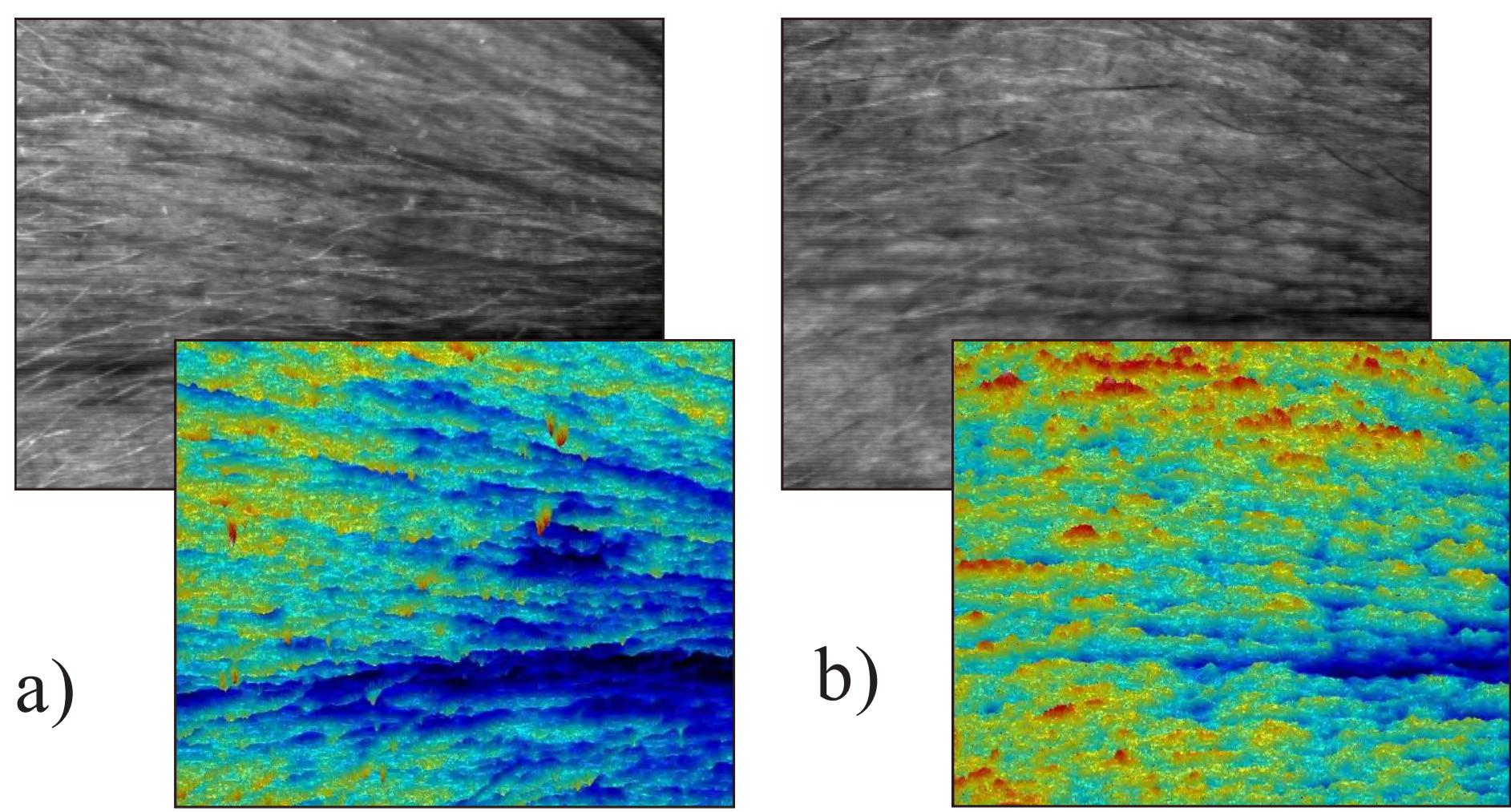
▲ Fig. 5: Results of facial appearance self-perception questionnaire (* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$)



▲ Fig. 6: Results of skin elasticity (arbitrary values)



▲ Fig. 7: Results of corneometry (arbitrary values)



▲ Fig. 8: Results of skin topography a) at baseline, b) after six week of treatment

Conclusion

The evaluated cosmetic procedure proved to be an effective option for non-invasive application of hyaluronic acid. It improves skin glow, smoothness and hydration and is accompanied with high subjects' satisfaction. Furthermore it is well tolerated.



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