

Investigating the effect of aging on skin elasticity using the DermaLab Elasticity Probe

A collaboration between Cortex Technology and Dr. Pablo Naranjo from Elite Laser Clinic



Introduction

The aim of this paper was to investigate and compare skin elasticity across different age groups using the DermaLab Elasticity Probe.

Skin elasticity refers to the property of the skin that enables it to change and recover shape when stretched or deformed. Skin elasticity depends on the interplay between skin components, primarily collagen, elastin, and ground substance (1). With increasing age, skin elasticity declines due to reduced collagen syntheses, degradation of elastin, and a decrease in volume and integrity of the ground substance (2). In addition, life habits such as smoking or sun/UV light exposure may also negatively affect skin elasticity (3).

Methods

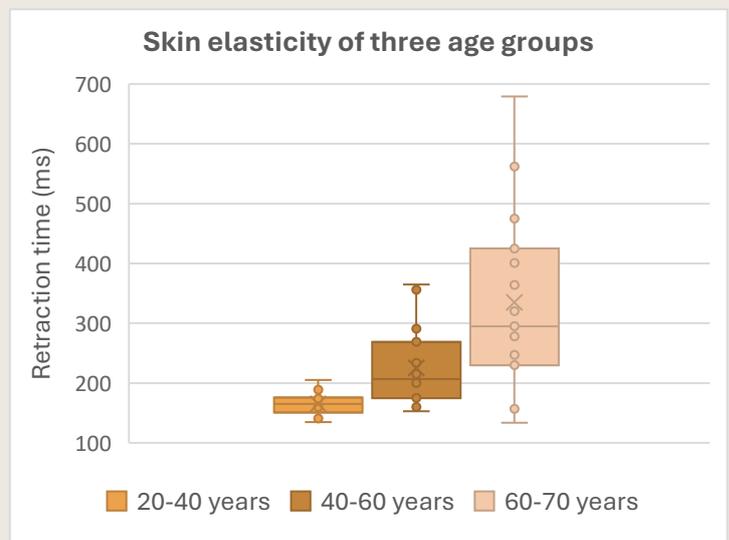
45 participants were enrolled and divided equally into three age groups: 20-40 years, 40-60 years, and 60-70 years. Skin elasticity measurements were performed in the temporal area using the DermaLab Elasticity Probe. To minimize potential confounders, participants were instructed to refrain from applying other treatments or moisturizing creams for 24 hours prior to the measurements.

Results and discussion

Elasticity measurements demonstrated an increase in mean retraction time and inter-individual variation in the 40-60 and 60-70 year age groups compared to the 20-40 year group. Linear regression analysis revealed a significant positive association between age and retraction time ($p < 0.001$), indicating longer retraction times in older age groups.

Conclusion

The results demonstrate that the Cortex Elasticity Probe effectively can visualize and quantify differences in skin elasticity across different age groups. Furthermore, the findings indicate that both elasticity variability and mean retraction time increase with age.



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Niels Jernes Vej 6B
9220 Aalborg
Denmark
+45 9857 4100
cortex@cortex.dk
www.cortex.dk

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