ABSTRACT BOOK ABSTRACTS



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AESTHETIC AND COSMETIC DERMATOLOGY (LASERS SEPARATE CATEGORY)

QUANTIFICATION OF THE FACIAL SAGGING IN THE SPECIFIC FACIAL ZONES UPON POSTURAL CHANGES USING A THREE-DIMENSIONAL IMAGING ANALYSIS

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Background: Most of the studies previously used two-dimensional photographic criteria to grade facial skin sagging. While visual scoring systems established by multiple researchers could produce similar assessment, they are based on subjectivity and could differ among studies. A specific scoring system could only be used in the same ethnicity since the anatomical structure of the face and its change with aging could vary in different ethnicities. Moreover, the slight changes, which are difficult to score in visual assessment, could be omitted.

Objective: To complement this, we adopted a three-dimensional imaging analysis to objectively measure the severity of sagging, in terms of sagging distance and volume changes in specific facial zones, and analyze the effect of gravity by comparing facial sagging in different body postures.

Materials and Methods: Faces of 21 young $(30.45\pm2.81 \text{ yo}, n=11)$ and old $(59.50\pm3.37 \text{ yo}, n=10)$ Korean female subjects were scanned in different body postures including standing, supine, and head flexion $(30^{\circ}, 45^{\circ})$. The mean length of area displacements and volumetric changes in specific facial zones upon postural changes were assessed.

Results: Upon flexion of the head, the specific facial zone near nasolabial fold was displaced and this change was significantly greater in the elderly group. In addition, the facial changes were greater with increased flexion angle. Upon supination, another specific facial zone in the lower face was displaced consistently in both age groups. The facial changes were significantly greater in the elderly group.

Conclusions: The use of a three-dimensional imaging technique could accurately assess the gravity-induced facial changes in different postures. Moreover, while previous studies suggested using representative landmarks to assess facial sagging, we analyzed the changes of certain facial zones upon postural changes to reflect facial changes more accurately.





