



Perioral aging – An anthropometric appraisal



Gregor F. Raschke^{a,c,*}, Ulrich M. Rieger^{b,c,1}, Rolf-Dieter Bader^a, Oliver Schaefer^c,
Arndt Guentsch^c, Marta Gomez Dammeier^{a,c}, Stefan Schultze-Mosgau^a

^a Department of Cranio-Maxillofacial Surgery & Plastic Surgery, Friedrich Schiller University Jena, Erlanger Allee 101, 07747 Jena, Germany

^b Department of Plastic & Aesthetic, Reconstructive & Hand Surgery, Markus Krankenhaus, Wilhelm-Epstein-Straße 4, Frankfurt am Main, Academic Teaching Hospital, Johann Wolfgang von Goethe University, Germany

^c Interdisciplinary Research Group of Computational Medicine, Friedrich Schiller University Jena, Erlanger Allee 101, 07747 Jena, Germany

ARTICLE INFO

Article history:

Paper received 3 June 2013

Accepted 8 October 2013

Keywords:

Facial aging

Smoking

Aging related changes

Perioral region

Anthropometry

ABSTRACT

To adequately perform perioral rejuvenation procedures, it is necessary to understand the morphologic changes caused by facial aging. Anthropometric analyses of standardized frontal view and profile photographs could help to investigate such changes.

Photographs of 346 male individuals were evaluated using 12 anthropometric indices. Data from two groups of health subjects, the first exhibiting a mean age of nearly 20 and the second of nearly 60 years, were compared.

To evaluate the influence of combined nicotine and alcohol abuse, the data of the second group were compared to a third group exhibiting a similar mean age who were known alcohol and nicotine abusers.

Comparison of the first to the second group showed significant decrease of the vertical height of upper and lower vermilion and relative enlargement of the cutaneous part of upper and lower lips. This effect was stronger in the upper vermilion and medial upper lips. The sagging of the upper lips led to the appearance of an increased mouth width. In the third group the effect of sagging of the upper lips, and especially its medial portion was significantly higher compared to the second group. The photo-assisted anthropometric measurements investigated gave reproducible results related to perioral aging.

© 2013 European Association for Cranio-Maxillo-Facial Surgery. Published by Elsevier Ltd. All rights reserved.

1. Introduction

Facial aging, its effect on the facial morphology and surgical correction are among the most discussed issues in esthetic surgery. An area of special interest is the aging processes of the perioral region. The lips and its surrounding soft-tissue play a key role in non-verbal communication and psychological communication during speech (Leveque and Goubanova, 2004; Lopez-Jornet et al., 2010). Aging of the perioral region is among the main reasons for patients seeking surgical correction of aging related changes (Sullivan et al., 2010).

Beside a throughout understanding of the underlying anatomy, a detailed knowledge of aging related changes of the perioral region is fundamental in planning successful anti-aging surgery.

Most studies evaluating facial aging do not use comparable methods. To quantify facial aging processes, most authors use defined anthropometric distances and/or angles. Aging related changes are normally presented in absolute values, such as

millimeters or degrees (Ferrario et al., 2001; Dickens et al., 2002; See et al., 2008). Another preferred method is the report of subjective evaluation by patients, doctors and laymen (Kennedy et al., 2003).

In contradiction to these subjective and absolute methods, facial anthropometric indices described by Leslie G. Farkas provide an objectifiable and relative information about relations between at least two anthropometric distances (Farkas, 1981; Farkas and Munro, 1987; Edler et al., 2006). They have proven useful to objectively quantify pre- to postoperative changes in facial reconstructive (Raschke et al., 2012a), traumatologic (Raschke et al., 2012b) and esthetic (Raschke et al., 2011) surgery. Furthermore they are widely used in the field of planning facial changes e.g. in orthodontics (Gosman, 1950; Liou et al., 2007).

In this study we investigated the effect of the aging processes on anatomic landmarks and perioral relationships on standardized frontal view and profile photographs. Results of photo-assisted anthropometric measurements of a group of healthy males with a mean age of 20 years (G20) were compared to a group of males with a mean age of 60 years (G60).

Of special interest in the evaluation of the influence of harmful habits like alcohol and nicotine abuse on facial aging. To investigate the effect of combined alcohol and nicotine abuse on perioral aging

* Corresponding author. Department of Cranio-Maxillofacial Surgery & Plastic Surgery, Friedrich Schiller University Jena, D-07740 Jena, Germany. Tel.: +49 3641 9323674.

E-mail address: raschke.gregor@googlemail.com (G.F. Raschke).

¹ Authors contributed equally to the manuscript.

results of the G60 were compared to a group of similar mean age exhibiting combined alcohol and nicotine abuse (G60a).

2. Material and methods

All individuals presented between January 2005 and December 2012 at the Department of Cranio-Maxillofacial Surgery/Plastic Surgery at the University Hospital Jena, Germany. All subjects were male white Caucasian subjects, who exhibited a bilateral support zone in Class I dentition. Individuals exhibiting malocclusion, congenital deformities such as cleft lip and/or palate or earlier operations affecting the superficial facial morphology were excluded. We excluded patients exhibiting general diseases influencing the facial morphology e.g. via the fluid balance such as renal failure. According to patients' history, none of the patients had had previous therapy for acne or any other facial cosmetic treatment or surgery.

To reduce the influence of different quantities of sun exposure, we excluded individuals with professions with excessive sun exposure such as farmers or building workers. Individuals with habits like regular solarium visits were also excluded.

The first group (G20) consisted of healthy subjects with a mean age of nearly 20 years (range 18–22 years). All individuals of this

group exhibited a type I in the Glogau Photoaging Classification (Glogau, 1996).

Results of the photo-assisted photographic measurements of the first group were compared to a second group (G60) with a mean age of nearly 60 years (range 55–65 years). Subjects included in this group presented for surgical procedures not affecting the facial region. All individuals of this group exhibited a type III in the Glogau Photoaging Classification (Glogau, 1996).

To evaluate the potential influence of combined alcohol and nicotine abuse on aging in facial morphology the results of the second group were compared to a third group (G60a) exhibiting a mean age of nearly 60 years (range 55–65 years) who had massive alcohol and nicotine abuse. These patients had an oral squamous cell carcinoma (OSCC). Localization and staging of the tumor were evaluated so as not to influence the superficial facial morphology. All individuals of group G60a exhibited a type III in the Glogau Photoaging Classification (Glogau, 1996).

Patients exhibiting diseases, which might influence the facial morphology such as cirrhosis of the liver as a consequence of alcohol abuse were excluded from the study.

A photographic comparison of the morphology of the perioral region of two sample subjects of each group is given in Fig. 1.



Fig. 1. Example of frontal and profile-view photographs of the perioral region of two health 20-(Above) and two 60-year-old subjects (Middle). Below photographs of two 60-year-old subjects exhibiting a combined nicotine and alcohol abuse.

Download English Version:

<https://daneshyari.com/en/article/3142646>

Download Persian Version:

<https://daneshyari.com/article/3142646>

[Daneshyari.com](https://daneshyari.com)