Analyzing Post-Reconstruction Facial Anthropometric, Cephalometric Parameters And Proportion Of Facial Edema On Maxillofacial Trauma Patients

Abstrak :

Introduction: Facial deformity and disharmony are often complained by maxillofacial trauma patients, requiring the surgeon to repair both function and appearance. Guidelines for reconstruction have been based on anatomical reduction and on Caucasian face parameters often not applicable for Indonesians. We aim at improving surgical outcome by applying our own guidelines obtained from previous research of facial anthropometric and lateral cephalometric parameters of new medical students of Airlangga University. However, we encounter the problem of facial edema in the acute phase. The objective of this study was to evaluate the surgical outcome of maxillofacial trauma patients using facial anthropometric and lateral cephalometric parameters and to evaluate the proportion of post-reconstruction facial edema of maxillofacial trauma patients.

Method: Descriptive analytical study. Nine patients with severe maxillofacial trauma underwent facial anthropometric and lateral cephalometric measurements on days 7, 14, 21 and 3rd month post-reconstruction, and facial photography pre and post-reconstruction. Data will be compared with results from previous research with 13 anthropometric and 44 cephalometric parameters which we considered as normal range. Photographs were evaluated by plastic surgeons and for patient satisfaction assessment.

Results: Facial anthropometric parameters 3 months post-reconstruction were within normal range except 1 in several males and 1 in several patients both males and females. From 41 lateral cephalometric parameters 3 months post-reconstruction, most were abnormal except 15 in males, 15 in females and 6 in both. Most vertical height measurements of both facial anthropometry and lateral cephalometry were in normal range. Eight anthropometric landmarks were not affected by edema, remaining constant throughout days 7, 14, 21 and 3rd month post-reconstruction. All cephalometric landmarks remained constant throughout days 7, 14, 21 and 3rd month post-reconstruction except 4. The was no further reduction of facial edema after day 21. All patients were satisfied with their surgery, despite complaints of facial shape change, hipoesthesia, stiffness in mouth opening and teeth relationship discomfort.

Discussion: The research showed surgical guideline based on anatomical reduction proved to be inadequate, requiring the combination of anthropometry and lateral cephalometry, to measure vertical height, horizontal length and depth of the face. Vertical height was not affected by edema. Facial edema completely resolved after day 21, meaning that we can apply these parameters for reconstruction in the acute trauma phase.

Keyword :

facial anthropometric, lateral cephalometry, facial edema, facial photography, pre and post-reconstruction

Daftar Pustaka :

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