

**COMPARATIVE STUDY OF CHANGES IN BODY COMPOSITION,
PHYSICAL STRENGTH, AND NUTRITIONAL STATUS OF PATIENTS
WITH MANDIBULAR FRACTURES TREATED CONSERVATIVELY
AND SURGICALLY-A PROSPECTIVE STUDY**

By

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Dissertation Submitted to the
Shri Dharmasthala Manjunatheshwara University, Dharwad, Karnataka,

In partial fulfilment
of the requirements for the degree of
MASTER OF DENTAL SURGERY
in
ORAL AND MAXILLOFACIAL SURGERY

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2020-2023

Shri Dharmasthala Manjunatheshwara University, Dharwad, Karnataka

ABSTRACT

TITLE: "COMPARATIVE STUDY OF CHANGES IN BODY COMPOSITION, PHYSICAL STRENGTH, AND NUTRITIONAL STATUS OF PATIENTS WITH MANDIBULAR FRACTURES TREATED CONSERVATIVELY AND SURGICALLY-A PROSPECTIVE STUDY "

OBJECTIVES: The aim of the present study is to assess and compare the changes in patient's general condition pre-operatively and post-operatively during surgical and conservative treatment of mandibular fractures using body composition, grip strength, and nutritional status.

MATERIALS AND METHODS: Patient who underwent treatment for mandibular fractures at SDM CRANIOFACIAL RESEARCH CENTRE from April 2021 to January 2023 were included in this study. Body composition index that was investigated includes body weight, body mass index (BMI), body fat percentage, and skeletal muscle percentage which were measured by bioelectrical impedance analysis. Nutritional status was evaluated using the Controlling Nutritional Status (CONUT) score. The CONUT score was calculated from the serum albumin level (Alb, g/dL), total lymphocyte count (TLC, /mm³), and total cholesterol concentration (TC, mg/dL). CONUT score was calculated as sum of Alb+TLC+TC and the scores were calculated as normal (0-1), mild (2-4), moderate (5-8) and high (>8). Grip strength was measured using Dynamometer. The severity of injury was estimated using the Facial Injury Severity Scale (FISS) and the gradings were as: dentoalveolar fracture (1 point), each fracture of body, ramus, symphysis (2 points), each fracture (condyle/coronoid) (1 point). The patients were investigated pre operatively and the follow up period was 1 week, 3 weeks and 6 weeks postoperatively.

RESULTS AND INTERPRETATION: The body composition indices such as body weight, BMI, and body fat percentage showed improvement in patients from immediate post-operative

period to 3rd week of follow-up on patient's treated surgically than those who were treated conservatively. However, there was not much difference in skeletal muscle percentage among the two groups at 3rd week of follow up.

The nutrition parameters such as Serum Albumin, total lymphocyte count and total cholesterol count either showed decline or of not much significant difference for both the groups. However, the results were statistically significant in some cases. However, the grip strength improved in surgical group post operatively compared to that of the conservative group.

CONCLUSION: Pre-operative assessment should be given utmost importance as it helps to assess the post-operative result. In patients following mandibular trauma surgery, both diet and mouth opening are difficult due to trismus for a certain period after surgery, and this is thought to be one of the most important factors for malnutrition. Diet and post-operative nutritional intake of the patient forms the pillars of wound healing and improved recovery. Thus, it is important to formulate a proper treatment plan which includes dietary support and nutritional assessment of patients post operatively.

KEYWORDS

Albumin, Body weight, Body Mass Index, Mandibular Fractures