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Original Research

A Study on how nutritional management during Maxillomandibular fixation of jaw fractures improves quality of life and prevents weight loss

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ABSTRACT:

Background: MMF for the management of jaw fractures leads to compromised nutritional intake and consequent weight loss and poor qol.This study aimed to evaluate the effectiveness of a home basd dietary plan to prevent weight loss and its effect on qol of patients who underwent four weeks of MMF for the treatment of maxillofacial fractures. Maxillomandibular fixation is a closed reduction technique that interferes with normal nutrition and dietary intake especially of solid and semisolid foods and thus results in weight loss and malnutrition, which in turn can affect the patient's recovery. Therefore, in this study, we explain the degree and pattern of weight loss of patients who have undergone treatment with MMF. **Materials and Methods:** A total of 50 patients were randomized into nutritional intervention group 1 and non intervention group 2. Group 1 were counseled by dietician and given a diet plan. Group 2 were advised to take a liquid diet of their own choice in the form of shakes , juices ,milk along with proyeinsupplemets. The patient's weight was measured and compared before and after the treatment. **Results:** Pateintsin group 1 lost significantly less weight compared to group 2. Group 1 pateints had significantly better oral health realtedqol in the physical pain domainduring the two weeks of IMF. They had better nutrition related qol in all the domains during the MMF period.**Conclusion:** Although no severe and acute malnutrition was seen among our patients, MMF led to mild to moderate malnutrition in some cases. It is therefore mandatory to use nutritional supplements in patients undergoing maxillomandibular fixation.

Key Words: Maxillomandibular Fixation (MMF), Mandibular fractures, diet plan, quality of life, nutrional intervention.

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INTRODUCTION

Maxillomandibular fixation (MMF) is a traditional method to immobilise the jaws for the management of maxillofacial fractures. Although open reduction and internal fixation (ORIF) provides early recovery, MMF is an alternative option for minimally displaced fractures and may eliminate the need for open reduction, thus potentially avoiding the complications of surgery. It leads to superior outcomes in the form of reduced treatment costs and a shorter hospital stay, and avoids postoperative sequelae.1, 2, 3 In the current era of the severe acute respiratory syndrome coronavirus 2 pandemic, MMF is preferred as the first-line treatment to avoid the aerosol associated with ORIF.[4]

During MMF the intake of solid food is hampered, leading to significant weight loss. Quality of life (QoL) is an important parameter that measures patients' psychological satisfaction about a particular treatment. Immobilisation of the jaws in MMF may lead to psychological dissatisfaction and result in the patient's perceived disability significantly affecting their overall treatment-related QoL.5, 6, 7, 8, 9, 10, 11

Though various studies12, 13, 14 have described the need for nutritional intervention during MMF, we know of few12, 15, 16 that have directly compared nutritional intervention groups with non-intervention groups in terms of weight loss. A careful search of the literature did not reveal any prospective, well-designed, randomised, comparative studies describing individually assessed diet protocols in patients undergoing MMF and their effects on treatment-related QoL.

The present study was conducted in GDC Srinagar in the department of oral and maxillofacial surgery. therefore aimed to evaluate the effectiveness of a home-based diet in patients undergoing MMF for the treatment of maxillofacial fractures. The objectives were to see the effectiveness of an individualised diet

to prevent weight loss, and to assess its effect on the QoL of patients undergoing four weeks of MMF.

PATIENTS AND METHODS

A prospective, randomised, controlled trial was conducted in the department of Oral and Maxillofacial Surgery – GDC Srinagar India, from July 2018 to September 2020.. A total of 50 patients between the ages of 18 and 55 years were recruited. Forty-eight had non-displaced or minimally displaced mandibular fractures in the tooth-bearing area, and two had

RESULTS

Each group had 23 male and 2 female subjects. The mean (range) age in Group1 was 24.76 (18 - 41) years and in Group 2 was 27.24(18 - 49) years.

The mean (SD) weight of patients in groups 1 and 2 at baseline (w0) was 62.11(12.3) kg and 58.5(11.2) kg, respectively. As this difference was not significant (p=0.286), intergroup comparison of weight loss between both the groups was reliable. Those in Group1 lost significantly less weight at each follow-up interval during MMF (week 1: p=0.025, and week

DISCUSSION

During MMF, immobilised jaws cause temporary malnourishment. Surgeons may try to maintain the patient's nutritional status by different measures such as counselling by a dietitian,12, 15 providing diet protocols,11, 13 or allowing patients to consume their choice of food in blended form.[14] Any of these approaches can be advocated, although a few of the adverse effects are inevitable. The main disadvantages of MMF include weight loss due to compromised food intake and poor QoL due to perceived

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