INTRODUCTION

Denture insertion is never the final step during treatment of a patient with complete denture. Patients should always be recalled after denture insertion to look for several post-insertion problems and to address them.\(^1\) Traumatic ulcerations after wearing a new complete denture are one of the most common problems encountered in post-insertion recall visit.\(^3\) These ulcers are very painful and cause discomfort to the patients. There are several factors that are responsible for mucosal ulcerations like denture base defects, overextension of flanges, improper adaptation of internal surface of denture, tissue undercuts, presence of occlusal immaturities to name a few.\(^3\)

Complete denture treatment is not complete unless the patient is satisfied and comfortable while wearing it. After denture insertion the patients should be recalled for adjustment visits on appointment basis for several times and on need basis after that. Traumatic ulcerations during these visits are the most common complains which are shown by the patients.\(^8,10\) Evaluation of the frequency and site where these ulcerations occur the most can be helpful for the performing dentist to look for any errors at those very regions in the complete denture during insertion of the denture. This can help avoid and reduce the number of post-insertion adjustment recall visits for complete denture patients. The general objective of this present study was to assess the frequency and site of traumatic ulcerations in post-insertion adjustment recall visits in patients wearing complete denture.

METHODS

A descriptive cross-sectional study was conducted among completely edentulous patients visiting Department of Prosthodontics for placement of complete denture from August 2022 to June 2023 after obtaining ethical clearance from Institutional Review Committee of Chitwan Medical College (IRC No: CMC-IRC/079/080-007).

The sampling method used in this study was census sampling method. Cochran's formula \((n=z^2pq/e^2)\) was used to calculate sample size where \(n=\)sample size, \(p=\)proportion of success, \(q=1-p, e=\)margin of error, \(z=1.96\) at 95% confidence level,
p=0.95 i.e. 95% success proportion, q=0.05 and e=0.05. From this calculation sample size was taken as 75.

Data collection was done from willing patients after taking written consent from them. A data collection proforma was used to collect data which include the age, sex, and frequency of post insertion recall visit and site of traumatic ulceration. Patients were recalled after 24 hrs of denture insertion and then every 2 days until there were no ulcerations in the denture bearing areas.

The data were entered in an Excel sheet and descriptive statistical analysis (frequency and percentage) was performed using SPSS Statistical Software Package (version 21.0).

**RESULTS**

Among the patients willing for the study 54.66% (N=41) were female and 45.33% (N=34) were male. The age group of patients included in this study is depicted in Table 1.

The frequency and site of traumatic ulcerations observed in the patients is depicted in Table 2 and Table 3.

**DISCUSSION**

After insertion of complete denture, patients go through various struggles to get adapted to their new denture. Out of many post-insertion problems traumatic ulcerations is one of the most common and frequent complain of the patients.

The complete denture patients recalled for post insertion follow up visits were carefully examined for locating traumatic ulcerations caused after wearing the denture. This present study showed that 49.33% (N=37) patients required adjustment for traumatic ulcerations in 1st recall visit. Likewise in the 2nd recall visit 12.5% (N=9) patients still required adjustments. The patients were without any ulcerations after the 3rd recall visit. These findings are having similarity in results found in a study done by Kivovics et al. where 87% of their patients required adjustments for traumatic ulcerations in the 1st recall visit. Likewise in a study by Khan E et al. 76.63% of the patients complained with traumatic ulcerations in one or both arches within a time of 3-4 days after denture insertion. So, it is suggested that instructions to consume soft consistency food in the initial days after denture insertion should be given to the patients. In addition, it is also necessary to observe if the instructions have been maintained by the patients during their follow-up visits to the dental department.

In this present study 45.33% (N=34) patients complained of ulcerations in the mandibular arch in comparison to only 12% (N=9) complaint of ulcerations in the maxillary arch. This difference in the frequency of ulcerations between the two arches might be due to various factors. One of the reason might be maxillary arch having greater surface area for denture contact.
support in comparison to mandibular denture bearing area. Next reason for this might be less stability of mandibular denture in comparison to maxillary denture. These all reasons cause more degree of movement of mandibular denture and hence more frequency of ulcerations in the mandibular denture bearing area. These findings are similar to various other studies in which they too observed that mandibular arch showed more frequency of traumatic ulcerations in comparison to maxillary arch.

In this study the most frequent site for traumatic ulcerations in maxillary arch was distobuccal sulcus which might be due to over extension in that area as well as presence of undercut which is more common in distobuccal area. Similarly in the mandibular arch the most common site of ulcerations was labial sulcus followed by buccal sulcus and distobuccal sulcus. This observation of more ulcerations in labial sulcus might be due to overextension of labial flange while performing border molding. Proper border molding and impression making procedure along with the use of pressure indicating pastes during denture insertion and follow-up visits can help avoid the frequency of traumatic ulcerations in denture wearing patients.

In a study which compared denture inserted by using pressure indicating paste and without using paste it was observed that more frequency of traumatic ulcerations was present in patients in whom pressure indicating paste wasn’t used.

The present study also has limitations. The small sample size is the first limitations. The study was conducted among the patients of Chitwan Medical College so the results cannot be generalized.

CONCLUSION

In this study traumatic ulcerations was most frequently found in distobuccal sulcus area in the maxillary arch and labial sulcus in the mandibular arch. Ulcerations in the mandibular arch was observed more frequently than the maxillary arch. It can be concluded that denture insertion is never the final step of denture fabrication and compulsory post-insertion follow-up appointments should be given to the patients until they feel comfortable with wearing the complete denture.

CONFLICT OF INTEREST: None

FINANCIAL DISCLOSURE: None

REFERENCES:


12. Yaqoob A, SHEHRANI IA, Al Farsi M. Assessment of the incidence and location of traumatic ulcerations subsequent to the placement of complete denture with and without the use of pressure indicating paste. International Journal of Medical Dentistry. 2018 Apr;3(2). [LINK]