

Incidence of Alveoplasty Post Extraction in prosthetic Patients – A Retrospective Study.

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Received: April 2019

Accepted: May 2019

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ABSTRACT

Background: An Alveoplasty is a pre prosthetic procedure that smoothens the jawbone. This procedure is done in areas where teeth have been extracted or lost. Alveoplasty can be done alone, but is usually done at the time of extraction. The aim of this pre prosthetic procedure is to improve the quality of oral supporting structures that provide better retention and stability to dental prostheses. **Reason:** This study is done to implement protocols to reduce the need of secondary Alveoplasty as the procedure causes extra financial and surgical burden to the patients. The aim of the study is to analyze the advantages of Alveoplasty at the time of extraction. **Objective:** The objective of this study is to determine whether Alveoplasty, if performed at the time of extraction saves time and ends in faster prosthetic rehabilitation when compared to secondary Alveoplasty. **Methods:** This study was done and 30 cases were selected out of which 15 cases that have undergone extractions have undergone alveoplasty done on the same day and the remaining 15 patients have undergone alveoplasty after few days of extraction. **Results:** Results showed that the mean time taken for the completion of prosthetic replacement is quite higher in cases that had alveoplasty done on a different day of extraction compared to those cases that had alveoplasty done on the same day of extraction. **Conclusion:** We conclude that alveoplasty done on the same day of extraction aids in faster correction of the edentulism.

Keywords: Dentulous, Edentulous, Alveoplasty.

INTRODUCTION

Alveoplasty is a dental pre-prosthetic procedure performed to smoothen or reshape the jawbone. In this procedure, the bony edge of the alveolar ridges and its surrounding structure is made smooth, redesigned or re-contoured so that a well-fitting, comfortable, and esthetic dental prosthesis may be fabricated. This pre-prosthetic surgery prepares the mouth to receive a dental prosthesis by improving the condition and quality of the supporting structures so they can provide support, better retention and stability to the prosthesis. After tooth extraction, the residual crest irregularities, undercuts or bone spicules should be removed, because they may result in an obstruction in placing a prosthetic restorative appliance. Re-contouring can be made at the time of extraction or at a later time. The simplest form of alveoplasty can be in the form of a digital compression on the lateral

walls of bone after simple tooth extraction, provided that there are no gross bone irregularities. When more irregularities exist, other techniques can be adopted, such as the conservative technique, inter-septal (Dean's) alveoplasty, and Obwegeser's modification of inter-septal, alveoplasty after post extraction and the alveoplasty performed on edentulous ridges. In cases where there are severe undercuts, radical alveoplasty is required. This involves the removal of the whole buccal or labial plate after extraction. In addition, secondary alveoplasty sometimes occurs after the initial procedure to eliminate any gross bone irregularities.

A full thickness flap is usually elevated to a point apical to the desired area to be contoured, and according to the amount of bone needed to be removed, a bone file, or a bone rongeur, or a burr under copious irrigation can be used to provide the desired contour. Taking in consideration that lack of irrigation can lead to bone necrosis. When finished, the flap is repositioned and sutured. The alveolar mucosa covering bone should have uniform thickness, density and compressibility to evenly distribute the masticatory forces to the underlying bone.

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Edentulism is the condition of being toothless. Fall of some teeth results in partial Edentulism, whereas loss of all teeth results in complete Edentulism. Edentulism can be accompanied by functional and sensory disturbances to the oral mucosa and salivary glands. Edentulous patients are liable to reduced tissue reformation and reduced tissue counteraction that affects the protective function of the oral mucosa.^[1-3]

People lack confidence on their appearance due to edentulism. They hesitate to go out in public, as they feel embarrassed to smile and talk to people. Edentulism also affects a person's phonetics, as speech and words are dependent on our anterior teeth. Being edentulous automatically affects the appearance of the person.

Complete loss of teeth leads to facial ageing. Edentulism also affects the health status of an individual. Edentulous people are at a greater risk of cardiovascular disease. Edentulism may lead to a condition called oral dyskinesia, which is defined as abnormal, involuntary, shaped or standardized and aimless oro-facial movements. It can occur due to several factors such as ill-fitting dentures and unstable prostheses, oral discomfort etc.^[4]

However its exact etiology is not known. These ill-fitting dentures and unstable prosthesis can be the outcome of not performing the pre-prosthetic surgeries such as Alveoloplasty immediately post extraction. However alveoloplasty, which is performed on the day of extraction, may lead to faster prosthetic replacement of edentulous spaces when compared to those that performed after some days of extraction. In our study we have considered the above lines as our assumption and tried to prove it by retrospective analysis.

MATERIALS AND METHODS

This study was done and 30 cases were selected out of which 15 cases that have undergone extractions have undergone alveoloplasty done on the same day and the remaining 15 patients have undergone alveoloplasty after few days of extraction. The data were collected by assessing the patient report by entering the patient's registration number in the patient report column in the sheet. The data collected includes the days of extraction, day of alveoloplasty, start of the prosthetic replacement and completion of the prosthetic replacement.

RESULTS

The study had a total samples of 30 out of which 15 cases have undergone alveoloplasty on the same day of extraction and remaining 15 have undergone alveoloplasty on a different day of extraction. The mean time taken for the completion of prosthetic replacement in patients who has undergone alveoloplasty on the same day of extraction is

found to be 22.8 days. Which can be approximated to 23 days.

Table 1: Time taken for the completion of prosthetic replacement in patients who have undergone alveoloplasty on the same day of extraction

Duration of extraction (in week)	Completion of prosthetic replacement (in days)
1	23
3	25
2	16
1	28
2	22
2	15
2	23
1	21
1	22
3	19
2	32
1	26
2	22

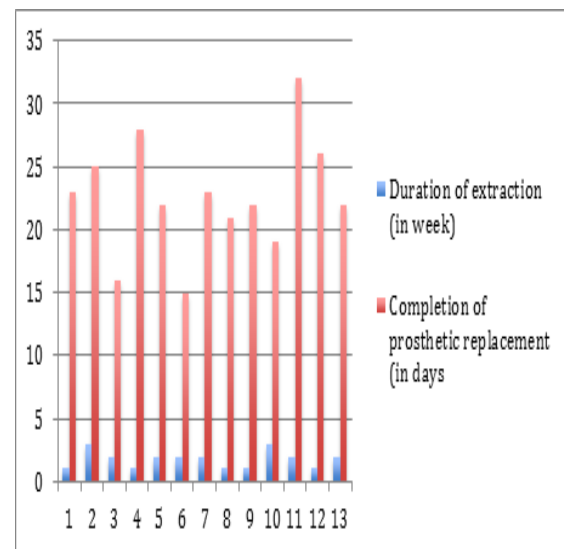


Figure 1: Time taken for the completion of prosthetic replacement in patients who have undergone alveoloplasty on the same day of extraction

Table 2: Time taken for the completion of prosthetic replacement in patients who have undergone alveoloplasty on a different of extraction.

Duration of extraction (in week)	Completion of prosthetic replacement (in days)
2	62
2	58
2	67
1	75
3	63
2	59
1	59
1	65
2	72
1	82
2	63
3	54
2	58
1	60
1	73

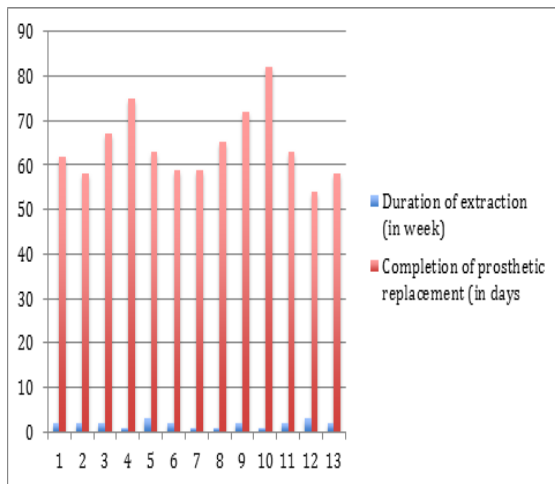


Figure 2: Time taken for the completion of prosthetic replacement in patients who have undergone alveoloplasty on a different of extraction.

The mean time taken for the completion of prosthetic replacement in patients who have undergone alveoloplasty on a different day of extraction is found to be 64.6 days, which can be approximated to 65 day. From the results obtained from the above two tables we can find that the mean time taken for the completion of prosthetic replacement is quite higher in cases that had alveoloplasty done on a different day of extraction compared to those cases that had alveoloplasty done on the same day of extraction.

DISCUSSION

Teeth have a major role in facial appearance, speech and eating. There are many evidences demonstrating the negative effect of edentulism on Oral health.^[5,6] Edentulism have a negative influence on oral function, social behavior and day-to-day activities.^[7-9] Compromised oral function leads to self-esteem and a fall in psychosocial well-being.^[8,10]

Edentulous people may restrict themselves from participating in social activities, as they feel embarrassed to speak, smile or eat in front of others, which eventually keep them in an isolated state.^[9,11,12] In these individuals wearing dentures could improve their facial and oral appearance. It can improve social interactions, which may increase their self-esteem and can lead to psychological well being.^[13-15]

Elham Emami and others in their article have explained the serious complications of being edentulous. They have mentioned that edentulous individuals are at a greater risk of various systemic diseases such as cardiovascular diseases in addition to lack of self-esteem and change in oral and facial appearances.

Terezinha Rezende Carvalho de Oliveira and others in their article have brought out the malnutrition problems in edentulous patients and have brought

out the beneficial effects of mucosupported and implant supported dentures. In addition to these they have analyzed the type of foods for these patients and explained them.

Asma Parvez and others have showed the causes that can lead to second surgical procedure and have given the protocols that must be implemented to prevent the need for secondary alveoloplasty.

However in our study we have neither showed the causes of secondary alveoloplasty or the complications of edentulism. In our study we have gathered information on the complications of edentulism and have demonstrated that alveoloplasty which is performed on the same day of extraction can result in a faster replacement of prosthetic dentures, which can minimize the duration of edentulism.

CONCLUSION

By our study we have analyzed the delay in the prosthetic replacement of edentulous area in patients who have undergone alveoloplasty on a different day of extraction and its is found to be delayed by approximately 42 days from those who have undergone alveoloplasty on the same day of extraction. By these results we conclude that alveoloplasty done on the same day of extraction aids in faster correction of the edentulism.

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How to cite this article: Lone MA, Zargar NM, Fayaz A. Incidence of Alveoloplasty Post Extraction in prosthetic Patients – A Retrospective Study. *Ann. Int. Med. Den. Res.* 2019; 5(4):DE15-DE18.

Source of Support: Nil, **Conflict of Interest:** None declared