

KNOWLEDGE ON MANAGEMENT OF FOOD IMPACTION IN PROSTHESES

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ABSTRACT

Food impaction is one of the common complaints reported by the patients wearing dental prostheses. It also leads to caries of the abutment and the adjacent teeth leading to subsequent failure of the prostheses.

AIM

To assess the knowledge, attitude and opinion of dental practitioners regarding the effect and management of food impaction around dental prostheses.

MATERIALS AND METHOD

A close ended questionnaire comprising of 10 questions regarding occurrence, consequences, likely reason and most routinely followed line of treatment for food impaction was distributed to 100 dental practitioners and responses recorded. The data were tabulated and analysed.

RESULTS

Majority of the practitioners(87.1%) were aware and some of them(13.9%) were unaware regarding the causes, effect and management of food impaction in various prostheses.

Most of the respondents had come across patients who complained of food impaction. The most common consequences of food impaction was proximal caries.

CONCLUSION

Majority of the dentists considered poor marginal adaptation of the crown as the most likely reason for food impaction. Repeating the prostheses with emphasis on prescribing and reinforcing the use of proper interdental aids was considered as the ideal treatment option.

KEYWORDS: *Food impaction, Denture, Contact areas, Abutment, Caries, Crown contour.*

I. INTRODUCTION

The loss of teeth can impair function, esthetics and phonetics hence it should be restored with prosthesis. Quality of the fixed or removable or complete denture depends upon a number of factors like retention, stability, dimensions, occlusion, esthetics, speech, difficulty in chewing, food accumulation etc. Denture related problems are likely to arise during denture wearing due to alteration of anatomical structures, difficulty in adaptation and technical faults in denture design and fabrication [1,2].

Food impaction in relation to various prostheses is one of the common complaints reported by the patient yet often neglected by the dentists [3]. Food impaction is the forceful wedging of food into the periodontium by occlusal forces. It may occur as a consequence of gingival tissue recession or disease, caries, severe attrition, plunger cusp, or inappropriate interproximal contact and clearance. It also leads to caries of the abutment and the adjacent teeth leading to subsequent failure of the prostheses [4]. These problems may be transient and may be essentially unnoticed by the patient or they may be serious enough to result in the patient being unable to tolerate the dentures. Failure to adhere to principles of crown contour, contact relation (form, type and position), margin placement and pontic design often leads to food impaction [5,6]. Food impaction resulting from faulty constructed restoration can be best avoided if suitable precautions are taken while designing the prosthesis.

Keeping this in mind, a survey was undertaken to assess dentists' opinion regarding the occurrence and pattern of food impaction in relation to various prostheses, its commonly observed consequences, factors contributing to it

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and its management. Further, the study findings would be incorporated to suggest measures or recommendations to understand in overcoming and preventing food impaction.

II. MATERIALS AND METHOD

A questionnaire consisting of 10 multiple choice/answer format was designed for the dentists regarding the occurrence of food impaction, common site and surface involved, commonly observed consequences, the most likely reason and routinely followed line of treatment. The survey sampled 100 dental practitioners from Saveetha Dental College and Hospital. The survey also asked the clinicians to provide demographic data such as the name, age, sex and year of study. Data was analyzed by computing the percentage response for each question (Table 1).

III. RESULTS

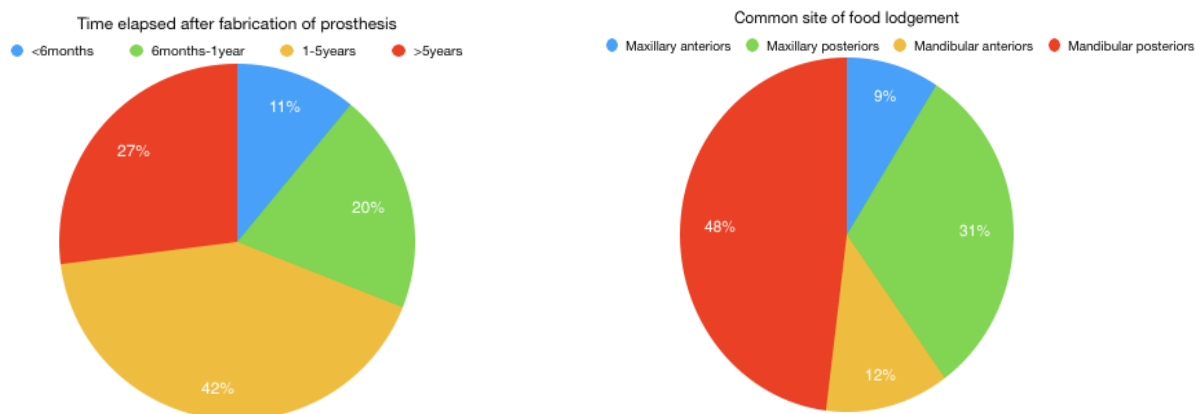
Table 1: Responses of the practitioners to the questionnaire.

QUESTIONS	MAXIMUM RESPONSE	MINIMUM RESPONSE
1. Patients with complaints of food lodgement	Yes- 62%	No- 38%
2. Occurrence more in	Long span fixed partial dentures- 38%	Complete dentures- 14%
3. Type of Pontic in FPD more prone	Saddle Pontic- 49%	Sanitary Pontic- 9%
4. Time elapsed after fabrication of the prosthesis	1-5 years- 42%	<6 months- 11%
5. Common site of food lodgement	Mandibular posteriors- 48%	Maxillary anteriors- 9%
6. Surfaces commonly involved	Near the finish lines- 34%	Labial/Buccal- 17%
7. Consequences observed	Proximal caries- 49%	Interproximal bone loss- 9%
8. Patients using interproximal cleaning aids	Sometimes- 67%	Always- 8%
9. Reason for food impaction	Poor marginal adaptation of the crown- 49%	Faulty design of the prosthesis- 13%
10. Treatment options	Redoing the prosthesis- 38%	Prescribing interdental aids- 11%

62% of dental practitioners have come across patients with complaints of food lodgement. 38% of the respondents said that occurrence of food lodgement was more in relation to Long span fixed partial dentures. Saddle pontic in fixed partial dentures was considered more prone to food lodgement. According to 42% 1-5 years was the time elapsed after fabrication of the prosthesis (Fig.1). Mandibular posteriors was considered the common site of food lodgement (Fig.2).

Most commonly involved surface in food impaction was near the finish lines. According to 49% proximal caries was frequently observed consequence due to food lodgement (Fig.3). 67% of their patients were sometimes using

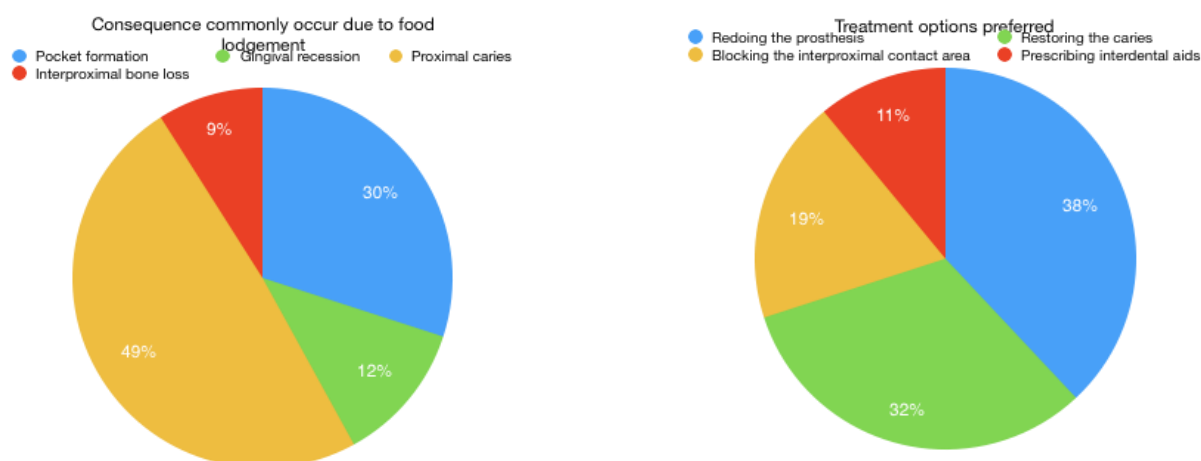
Figure 1: Time elapsed after fabrication of prosthesis Figure 2: Common site of food lodgement



interproximal cleaning aids. Poor marginal adaptation of the crown was considered to be the most likely reason for food lodgement. 38% of the practitioners preferred redoing the prosthesis to be the preferred treatment option (Fig.4).

Figure 3: Consequences due to food impaction

Figure 4: Treatment option preferred



IV. DISCUSSION

The results of this study revealed that almost all the dentists at one or the other time encountered patients complaining of food impaction in relation to prosthesis. Long span fixed partial dentures were considered more prone to food impaction. Saddle pontic in fpd was chosen to be more prone to food impaction (49%). It is a pontic with a concave gingival surface that overlaps the ridge buccal and lingually. It is difficult to maintain due to concave tissue surface.

Results of this study revealed that food impaction was most commonly seen in mandibular posterior region. These results are in agreement with the study done by Leonard Linkow [7], who stated that lower FPD collects more food than upper, particularly in the molar region. This is in contradiction to a study done by Jung et al.[8] who conducted a clinical study on occurrence of food impaction and observed that it is more frequently observed in maxillary teeth (66%) than the mandibular teeth (34%). Data of this study revealed that the area near the finish lines (83%) are the most commonly involved surface in food impaction. Data of another study [9] revealed the interproximal area (83%) as the most commonly involved surface in food impaction. The presence of unsatisfactory finish lines or proximal relationship and contour of occlusal surface is conducive to food impaction [10].

Early sequel of food impaction is feeling of vague pain and pressure, gingival inflammation, foul taste, and recession followed by bone loss and proximal caries.[11] Wedging of food eventually leads to plaque accumulation [12]. Plaque is the etiologic factor for caries and periodontitis. Results of these studies revealed that the most common consequences of food impaction were proximal caries and pocket formation.

Food impaction often makes a feeling of urgency to dig into an affected area. Very often it is seen that patient momentarily feel relieved of pain after using tooth pick in gingivo-occlusal direction. But this does not solve the problem of subsequent food impaction and its sequelae [13]. As per the data of this study, majority of the dentists (49%) considered poor marginal adaptation as the most likely reason for food impaction. The other contributing factors were improper contact relation with adjacent teeth (21%), improper crown contour (17%) and faulty design of the prosthesis (13%). This study revealed that 38% of the dentists considered repeating the prostheses as the ideal treatment option for management of food impaction. The other option included restoring the caries (32%), blocking the interproximal contact area (19%) and prescribing interdental aids (11%). Several studies have reported restoring ideal contact and contour with a permanent restoration as the most favorable and effective treatment option to manage food impaction [14].

This study certainly has its own limitations. As the subjects were asked regarding their experiences over a wide frame of time, memory and subjective bias could have been possible.

Appropriate measures must be taken to prevent food impaction. Dentists should delineate and follow a checklist with regard to contact relation, crown contour, margin adaptation and pontic design of prostheses for every individual patient. Dentist should also ensure that the laboratory technician has incorporated the prescribed design recommendations in the final prostheses [15].

V. CONCLUSION

Majority of the practitioners were aware regarding the causes, effect and management of food impaction in various prostheses. It is always better to take measures to prevent complications arising from faulty prostheses by ensuring appropriate design and construction rather than rectify the shortcomings later.

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