

Methods and Techniques for Removing Failed Fixed Partial Denture-A Clinical Study Done Across Various Dental Clinics in Patna

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Abstract: Fixed partial denture is one of the commonest methods of replacing lost tooth if the economic condition permits. Now a days it is very common practice to replace missing tooth with fixed partial denture. FPD can offer exceptional satisfaction for both patient and dentist. It can transform an unhealthy, unattractive dentition with poor function into a comfortable, healthy occlusion capable of long years of service and significantly improve esthetics. However failure in FPD is inevitable and this failure is due to various reasons. Once a FPD fails removing it is quite difficult and traumatic to the patient. My study which is done across 50 dental clinics in Patna in order to know the common procedure of removing failed fixed partial denture among the dentist in Patna.

Key Words: FPD, Failed fixed partial denture, crown remover. Metalift system

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I. Introduction

Fixed partial denture is defined as prosthesis which is concerned with the replacement/restoration of teeth by artificial substitutes that are not readily removed from mouth i.e. it is securely retained to natural tooth, tooth roots, or dental implant abutments. The longevity of fixed partial denture makes it a very good alternative to implant supported prosthesis, however failures in fixed partial denture is inevitable. They may need replacement due to functional, biological or aesthetic reasons¹. There are a number of factors which directly or indirectly may be the reason of failure. In spite of long life- span of fixed partial denture failures do occur and caries of abutment tooth is most common reason of failure and the other reason of failures are failed root canal treatment, periodontal problems, loosened retainers, fracture abutment or restoration which is unaesthetic to the patient². The failed restoration is difficult to repair, and repair of such fixed partial denture with different material and methods might fail³ and such restorations (FPD) need to be removed⁴. The survival and complication rates of fixed partial dentures, the 10 year probability of survival was 89.1%⁵. This finding was similar to two meta-analyses reported on in 1994 and 1998(90% and 92%)⁶.

There are number of techniques and different devices in market used to remove a failed fixed partial denture, it is quite easy to remove the temporary acrylic FPD which is cemented to temporary cements but it is very difficult for both patient and dentist to remove fixed partial denture made up of cast metal, porcelain fused to metal, ceramic and cemented with more adhesive cements like GIC, resin cements. The temporary fixed partial denture is easily removed by hand instruments and also by cutting instruments where as removing the permanent FPD which is cemented with permanent cements needs a strong force to dislodge. There are number of instruments available which may provide extracting forces to the tooth and supporting tissue. This may result in lot of discomfort to the patient⁷.

II. Material And Methods

The present study is done in Patna (Bihar). A total of 50 dental clinics are randomly selected and a questionnaire is given to them in order to know the basics method they were using in removing the failed FPDs and their knowledge about the various systems for crown and bridge removal.

Q.1. Do they know indication of removing an FPD.

a) Yes

b) no

Q. Do they have knowledge of classification system of FPDs removal and techniques?

a) Yes

b) no

Q.3 which method and system they follow while removing failed FPDs.

a)conservative b)semi conservative c)destructive d) none

Q.4 most common method used for removing FPD.

a)Chisel and sliding hammer crown removers b) spring loaded back action a crown removers c) spring loaded semi-automatic remover d) spring loaded automatic remover e) pneumatic CORONAFlex crown remover e) remove crown by sectioning.

Q5.Have they heard about the following system of crown removal.

a) Laser b) Meta lift system c) Higa system d) Buccolingual dimple technique
e) Rich will crown

III. Results

A total of 50 dental clinics in Patna are randomly selected in order to know the basics of crown removing techniques employed by various dentists in their day to day practice and their knowledge about different systems of FPDs removal.

Regarding their knowledge of removing/indication of failed fixed partial denture a large no of respondent (87%) say that they are fully aware when to remove a fixed partial denture, it means that they are aware about the failures of FPD like mechanical, biological or esthetic failures which is quite impressive.

Regarding their knowledge about the classification systems of removing the FPDs only (13%) of respondent say that they heard it while majority of the respondent say no.

Most(56%) of the respondent use conservative method of removing where as about (27%) were using semi conservative means and rest of the using destructive method in order to avoid trauma to patient.

Regarding most common instruments they employed in removing failed FPDs most of them using spring loaded back action remover(48%) which is little bit traumatic to the patient however it more tolerable than back action and chisel and hammer type of crown remover., (17.8%) were using semi automatic spring loaded crown remover, only(9%) were using automatic crown remover.

Regarding different systems of crown remover only (11%) have knowledge that laser is also used for removing FPDs where as 17% of them heard about Rich will system.

IV. Discussion

There are number of option for a patient who needs replacement of lost tooth, but fixed partial denture is more preferable due to average cost, less time in fabrication and its good life span. However due to changing oral environment, wear and tear process and patients poor oral hygienic condition it may fail. My study shows that as most of dentist knows (87%) when to remove the FPDs which is good, while most of them using conservative method of removing FPD(56%) and (27%) where using semi conservative means for removing FPD.when it comes to the techniques they are still using conventional technique which is traumatic for patient as well as dentist. Regarding their knowledge about laser only (11%) dentist aware that laser is also used for removing FPDs. There are number of methods and system available in the market which is used now days to remove failed FPDs and is less traumatic to patient, but lack of knowledge is the main reason that a no of dentist in Patna still using old methods of removing the FPDs. Only 17% of respondent is familiar with Richwill adhesive resin system. Laser technique, Metalift systems are the new system which is very effective and negligibly traumatic.

V. Conclusion

Lack of up gradation about new system and techniques leads to various shortcomings in terms of executing treatment hence it is very essential to acquaintance with newer development in dentistry. My study shows that there are no of dentist still using old system and techniques of removing failed FPDs so it is essential to sensitize with the newer development It is difficult to suggest a universal system for FPDs removal. Selection of an ideal system depends on the clinical condition. Ultrasound, Richwill adhesive resin and crowns tractors are the instruments of choices in removal of failed crown and FPDs cemented restoration, resulted in breaking the luting cement and enabling it to bere-cemented.

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