GUARD YOUR TOOTH WITH CUSTOMIZED CUSHION TECHNIQUE

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INTRODUCTION

"Total isolation gives better restoration" The need to work under dry conditions in the oral cavity has been recognized for many decades and can be done with the help of rubber dam sheet.[1]Rubber dam facilitates the use of the strong chemicals necessary to disinfect the root canal system reduces and the potential for patients to swallow or inhale foreign bodies. Rubber dam also enhances visibility and optimizes the moisture control and retraction of the soft tissue.[2]

Despite the many advantages of dental dams, they are often underutilized in endodontic and restorative procedures. Anabtawi MF[3] stated that only 44% of respondents reported using dental dams all of the time during root canal treatment. Patient objections and time requirement are frequent reasons for inconsistent application. The hard metal of the jaws of the clamps can contact the patient's gums, root surface, causing pain. Sometimes a clamp slips during dental treatment, causing the patient to jump with the resulting pain.

A cushion for a dental rubber dam clamp has a body of an elastomeric material with a tooth engaging front face which contacts with the tooth surface. It increases patient comfort by eliminating contact between steel clamp and gingiva or enamel. Enhances rubber dam seal to limit leaking from above or below and reduces clamp slippage. Helps protect natural tooth structure and delicate, costly restorations.[4]

As limited literature is available on modifications of metal clamps with rubber dam so with purpose we have designed the special cushion for the inner beak of the rubber dam clamps which is an innovative and easy to fabricate, customized, less time

consuming and can be done chair side way to prevent damage to gingival tissue. Exaclear (Exaclear, GC, Europe) is a clear polyvinyl siloxane elastic material with adequate handling properties was used the fabrication of innovative customized cushion.

Customized cushion technique

1. Evaluation of patient was done and teeth with class I caries was selected for restoration with customized cushion technique**.**
2. Selection of rubber dam clamp was be done as per given StudervantC M[11] criteria with four point contact and below height of contour.
3. Heavy gauge rubber sheets (Nictone, Expert Tech Solutions S.R.L,Bucharest) were taken for the isolation of the tooth. Dental floss was tied to the clamp (56 S Hu-Fredy, USA) for securing it.
4. After selection of well fitting clamp, customization of cushees was done extraorally.
5. Exaclear impression material was injected with help of auto mixing syringe over the clamp inner jaw area maintaining the uniform flow starting from the one side to other involving superior and inferior areas of the clamps.
6. Material was allowed to set extraorally for 8 minutes as per company recommendation.
7. Additional manipulation or moulding required was executed using a metal spatula and laceron carver .(GDC.)
8. Removal of excess material was done using a BP blade (No. 11)
9. Complete assembly of clamp with the customised cushion was then tried on patients tooth and the stability of the clamp was checked using an explorer. Now the selected clamp is place on the rubber dam sheet.
10. Following this, the Clamp and dam together technique was used achieving the isolation.
11. During the procedure patient response regarding any discomfort or leakage through the clamp which patient could experience was noted.
12. No discomfort or leakage was reported in the present case.
13. Once completion of the procedure entire assembly was removed and cushions were discarded.

DISCUSSION

As very scarce literature is available on the modification of rubber dam clamps and technique, exploration in this untouched part of dentistry is need of an hour. Despite of above mentioned advantages the use of rubber dam is clinical practice is very less**.**

Patient objections due to post operative pain, time requirement, tightness of the clamp, slippage seepage are frequent reasons for inconsistent application. Hence, there was a need to improve the comfort of dental rubber dam clamps

Cushions provide distinct advantages by its shielding effect due to elastic nature of material. Patient comfort is significantly increased because a steel rubber dam clamp or other hard surface does not contact gingiva or cementum which definitely reduces the post operative pain and discomfort of the patient.

Use of serrated clamps, worn out margins of the clamp, blunt edges or ill fitting clamps frequently leads to trauma to the gingival tissue and it is an unavoidable circumstance. Even Slippage of the clamps is one of the reasons why dentist avoids dam placement. The major reasons for slippage are short clinical crowns, dull inner jaws, anatomical variations and high gingival margins. Cushions give a distinct advantage of flexible transparent material with ease to manipulate, optimal consistency for an easy placement, perfect adaptation to the preparation.

Cushion reduces tissue trauma by its pliancy. Customization of stock clamps is also possible according to tooth anatomy due to good manipulative ability of material to adapt to its desired shape avoiding displacement of dam and slippage and give the optimal isolation as desired.

Conclusion

An innovative method of securing a dental rubber dam clamp includes placing the cushion and securing the clamp has proven to be fruitful and can be done chair side within no time. Reduces the pain of the patient and enhances rubber dam seal to limit leaking from above or below and reduces clamp slippage.

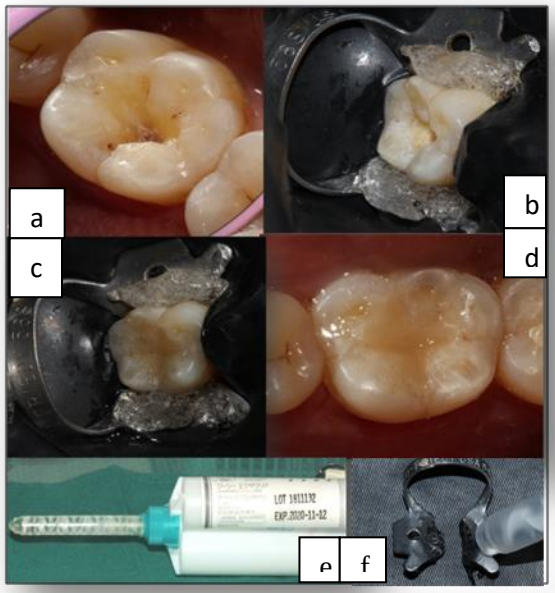

Fig –a- Pre operative clinical picture, b- Placement of entire assembly with customized cushion , c- post completion of treatment, d- After removal of the clamp with customized cushion, e- Exaclear impression material(GC Europe) F- Fabrication of clamps with Exaclear using automix syringe.

Reference

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