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Bs : Dental

Subject :

Operative  
Dentistry

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Q(5) ⇒ Dental bridges :-

The dental bridge are luted, screwed or mechanically attached to natural teeth, tooth roots and implant abutments that furnish primary support for dental prosthesis.

A dental bridge is a fixed dental restoration used to replace one or more missing teeth by joining an artificial tooth definitively to adjacent teeth and dental implant.

The dental bridges are made of the following materials.

- ⇒ metal
- ⇒ metal - ceramic
- ⇒ All - ceramic
- ⇒ Acrylic

⇒ Types of dental bridges :-

⇒ (1) Fixed bridge :-

A fixed bridges refers to a pontic which is attached



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to a retainer at both sides of the space with only one path of insertion. This type of design has a rigid connector at each end which connects the abutment to the pontic. The abutments are connected together rigidly it is critical that during tooth preparation the proximal surface of the abutment teeth must be prepared so that they are parallel to each other. It has rigid connectors at both ends of pontics which forms a rigid prosthesis.

⇒ (2) Fixed movable bridge:-

It has a rigid connector usually at the distal end of the pontic and a movable connector that allows some vertical movement of the mesial abutment tooth.

This enables a more conservative approach as the abutments do not need to be prepared so that are parallel to each other.



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Ideally, the rigid connector should attach the pontic to the more distal abutment. The movable connector attaches the pontic to the mesial abutment, enabling this abutment tooth limited movement in a vertical direction.

⇒ (3) Cantilever bridge:-

The cantilever bridge is a kind of minimal preparation bridge. It provides support for the pontic at one end only. The pontic may be attached to a single retainer or two or more retainers splintered together.

e.g.

Maryland bridge, Rochette bridge.

⇒ (4) Spring cantilever bridge:-

They are restricted to the replacement of upper incisor teeth. Only one pontic could be supported by a spring cantilever bridge. It is restoration of space dentition.



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Q(4) ⇒ Types of pontics:-

★ Mucosal contact:-

The mucosal contact pontics are the following:-

(1) Ridge Lap:-

The ridge lap pontic has a concave fitting surface that overlaps the residual ridge buccolingually simulating the contours and emergence profile of the missing tooth on both sides of the residual ridge.

(2) Modified ridge lap:-

modified ridge lap pontic combines the best features of the hygienic and saddle pontic designs combining esthetics with easy cleaning. The modified ridge lap design overlaps the residual ridge on the facial appearance of a tooth emerging from the gingival but remain clear of the ridge on the lingual.

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(3) Ovate :

The ovate pontic is the most esthetically appealing pontic design. Its convex tissue surface depression or hollow in the residual ridge, which makes it appear that a tooth is literally emerging from the gingival. Careful treatment planning is necessary for successful results.

⇒ (4) Conical :-

The conical pontic is also called egg, shaped or heart shaped pontic. The conical pontic is easy for the patient to keep clean. It should be made as convex as possible, with only one point of contact at the center of the residual ridge. This design is recommended for the replacement of mandibular posterior teeth where esthetics is a lesser concern.



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## ★ Non mucosal contact:-

The non mucosal contact pontic are the following.

### (i) Sanitary pontic:-

It is zero tissue contact pontic.

⇒ Occlusal gingival thickness should be at least 3mm.

⇒ Convex mesiodistally and faciolingually.

⇒ Space beneath the pontic 2mm (Resentiel) 3mm Tylman

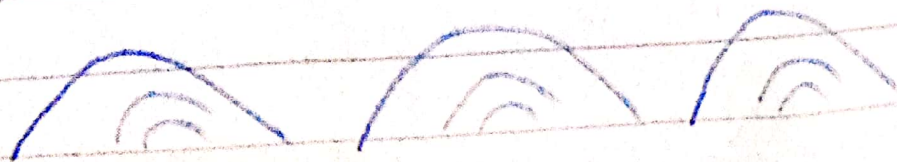
⇒ Adequate space for cleaning

### (ii) modified sanitary pontic:-

The gingival portion is shaped like a concave archway mesiodistally between the retainers and convex faciolingually.

⇒ Allows increased connector size in the pontic and connectors.

⇒ Recommended for mandibular posteriors.



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Q(2) Root canal treatment procedure:-

The root canal ~~treatment~~ procedure of ~~the~~ maxillary first premolar are the following:-

(1) Rubber Dam Isolation:-

Isolation of the tooth is accomplished with a rubber dam. It keeps bacteria in the saliva from entering into the tooth. prevents debris, instruments etc from going down the patient's throat.

(2) High-tech instruments:-

The high tech instruments are rotary nickel-titanium files. It is efficient way to clean the canal system, significantly reducing operating time, it is able to navigate curved canal due to their flexure.

(3) Cleaning the root canal:-

We use many instruments of different sizes and different shapes to properly clean and shape your specific root canal anatomy.



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#### (4) Disinfection of the root canal:

⇒ Sodium hypochlorite is one of the disinfectants used to reduce the bacteria load within the tooth.

⇒ Specialized blunt-ended needles are used to deliver these disinfectants to the end of the root in a safe and effective way.

#### (5) Accessing the root canals:-

⇒ To gain access to the root canals of the tooth, a small opening is made either on the occlusal surface of the tooth for posterior teeth, ~~or on the~~ or on a multi-rooted tooth gaining access into the root canals is more challenging. With the ~~root~~ ~~canals~~ aid of a microscope we are able to locate any hidden or calcified.

#### (5) Final Preparation:-

After thoroughly cleaning and shaping the canals the canals-

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are dried with absorbing paper point.

### (6) Filling:-

Finally the canals are sealed with two components.

⇒ Sealer - a cement that sets over time.

⇒ Gutta Percha - a filler made of a natural form of Latex.

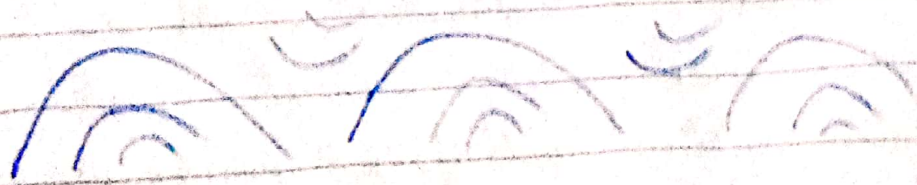
⇒ Upon completion of the root canal treatment a temporary filling is placed over the sealed canals that has two parts

⇒ Cotton pellet soaked in an antibacterial solution.

⇒ A solid temporary filling on top.

⇒ A final restoration is placed by your dentist

⇒ This will restore functionally to your tooth and protect it from fracturing.





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Q (3)

Ans:-

The diagnosed case is apexification and the management is given below:-

⇒ Management of Apexification:-

Steps:-

(1) The affected tooth is carefully isolated with a rubber dam, and an access opening is made into the pulp chamber.

(2) A file is placed in the root canal and a radiograph is made to establish the root length accurately. It is important to avoid placing the instrument through the apex which might injure the epithelial diaphragm.

(3) ~~The canal~~ After the remnants of the pulp have been removed using barbed broaches and files, the canal is flooded with hydrogen peroxide to aid

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in the removal of debris.  
The canal is then irrigated with sodium hypochlorite and normal saline.

(4) The canal is dried with absorbent paper points and cotton.

⇒ Using of Ca(OH)<sub>2</sub>:-

⇒ A thick paste of calcium hydroxide is transferred to the canal. An endodontic plugger may be used to push the material to the apical and but excess material should not be forced beyond the apex.

⇒ A cotton pledget is placed over the calcium hydroxide and the seal is completed with a layer of reinforced zinc oxide eugenol cement.

⇒ The root canal is repared to determine whether the tooth is a conventional.



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⇒ Gutta parch filling

⇒ If apical closure has not occurred in 6 months the root canal is retreated with the calcium hydroxide paste. If weeping in the canal was not controlled before the canal was filled retreatment is recommended 2 or 3 months after the first treatment.

⇒ Using MTA:-

⇒ The canal has been opened, rinsed with 5% sodium hypochlorite dried and calcium hydroxide was placed in the canal for 1 week.

⇒ 7 days after initial treatment with calcium hydroxide the molar has instrumented to remove calcium hydroxide and all the remaining tissue removed before further treatment. The apex of the

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molar root has been filled with mineral trioxide aggregate (MTA).

⇒ A moist cotton wool pludget was then placed in the canal overnight and the system temporarily sealed using obturation and a zinc oxide eugenol dressing.

⇒ Check radiograph was obtained to evaluate the apical seal.

⇒ The gutta perch and cotton wool pludget was removed the following day and a definitive root

filling placed coronal to the MTA using thermo-plasticized gutta perch.

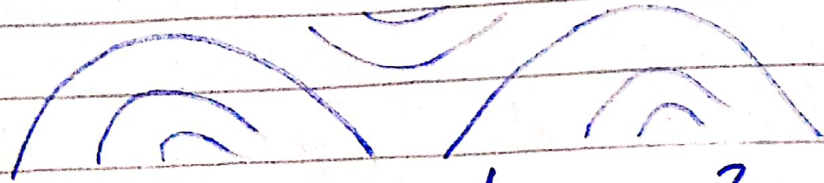
⇒ A temporary restoration has been placed to seal the canal opening.

⇒ At 6-month and 1-year follow ups. The clinical and radiographic



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appearance of the teeth showed resolution of the periapical lesions.



Q(1) (A) Possible outcome for missed root canal :-

⇒ This is one of the most common reasons for a failed root canal procedure in molars as there are multiple roots and pulp chambers and these are the teeth which are most common to have an extra canal or additional canal.

According to a study the presence of an additional canal is reported close 75% of the time in the upper first molar.

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⇒ Breakage file management:

This is unfortunate but unknown cause of failure of root canal treatment where the used to perform root canal treatment is broken in the canals which lead to excessive torsion force being applied.

⇒ In the most cases if the instrument is removed and Re-root canal treatment performed or the file is by passed which can be done by ~~by~~ an endodontist with microscope the tooth can be saved from future infection.

