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Subject: Operative Dentistry

B.s dental

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Final exam

Q#1: (A) write possible outcome for missed root canal.

Ans: (A)

1. Interested or missed root canal:

This is one of the most common reason for a failed root canal procedure in molar as there are multiple root and pulp chamber 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 to 75% of the time in the upper first molar.

2. Left over pulp tissue:

This is another major reason for failure of root canal treatment in some instances the root canal is cured or bent at angles which make it difficult to reach some canal range from 15mm to 25mm in length but some canal can reach up to 30mm which make it difficult to reach as these length. There will be left to infected tissue in the canal which can lead to failure.

3. Coronal leakage:

This result from leakage crown or restoration when the crown or the post RCT restoration is not properly done because re-infecting the rool canal system.

4. Over extension of GP point into periapical region:

This can be termed as an latrogemic cause for failure of RCT where the dentist is question is at fault. This happen when the GP point is over extended or crosses the tooth Apex and enters the periapical region thus inframing the surrounding tissue.

5. Breakage of file in the root canal:

This is an unfortunate but a known cause if failure of RCT where the file used to perform RCT

broken in the canal which lead to breakage of instrument due to excessive torsion for force being applied.

- In most cases if the instrument is removed and re-RCT performed.

6. Periodontal or gum infection:

In some rare cases it is seen that a periodontal or gingival infection like periodontitis or gingivitis can lead to infection of the root canal which is termed as perio-endo lesion.

Part (B)

→ cause of breakage:-

1. Torsional fatigue

2. Flexural fatigue

→ Management:-

1. Bypass

2. Retrieval

→ prevention:-

1. Knowledge of the physical characteristics of the instrument.

2. Flaws such as shiny areas or unwelcoming are detected on the flutes.

3. Instrument bending or crimping occurred due to excessive use.

4. The file kinks instead of curing.

5. Corrosions is noted on the instrument.

Q#2: Clinically explain root canal procedure.....

Ans: → Isolation with rubber dam:

1. Isolation of the tooth is accomplished with a rubber dam.

→ keep bacteria in the saliva from entering into the tooth.

→ prevent debris, instruments etc from going down the Patient's throat .

2. High tech instrument:-

- Rotary nickel- titanium files

→ Efficient way to clean the canal system, significantly reducing Operation time.

→ able to navigate curved canal due to their flexure.

→ cleaning the root canal.

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

→ Disinfection of the root canal.

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

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

→ Accessing the root canal:

To gain access to the root canal of the tooth a small opening is made either on the Occlusal surface of the tooth or on the lingual side.

→ In a multi-rooted tooth gaining access into the root canals is more challenging.

→ with the aid of a microscope we are able to locate any hidden or classified canals.

→ Final preparation:

After thoroughly cleaning and shaping the canal, the canal are dried with absorbing paper point.

→ obturating:

Finally, the canal 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 canal 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 functionality to your tooth and protect it from fracturing.

Q#3: A patient came to your clinic with incomplete..... . . .

Ans: Steps of technique

• Using MTA:

- 1- The canal has been opened, rinsed with 5% sodium hypochlorite, dried, and calcium hydroxide was then placed in the canal for 1 week.
- 7 days after initial treatment with calcium hydroxide, the incisor was instrumented to remove calcium hydroxide and all the remaining tissue before further treatment.
- The apical 4 to 5 mm of the incisor root has been filled with mineral trioxide aggregate (MTA)
- A moist cotton wool pledget was then placed in the canal overnight and the system temporary sealed using thermoplasticized gutta-percha using obturation, and a zinc oxide/ eugenol dressing.
- check radiograph was obtained to evaluate the apical seal.
- The gutta-percha and cotton wool pledget was removed the following day and a definitive root-filling placed coronal to the MTA using thermoplasticized gutta-percha.
- The incisor has completed initial treatment with MTA . A temporary restoration has been placed to seal the canal opening.
- At the 6- month and 1- year follow ups, the clinical and radiographic appearance of the teeth showed resolution of the periapical lesions

Q#4: Differentiate all types of pontic thoroughly?

Ans: 1) Tissue - pontic is the suspended member of a fixed partial denture. It replaces the lost natural tooth restores function, and occupies the space of the missing tooth.

2) → smooth surface and convex in all directions.

→ Easily cleanable.

→ Pinpoint pressure free contact on the ridge.

→ No irritation to the gingival tissue.

→ Restore function.

→ No abutment overloading

→ color stable

- Function of pontic:

- Mastication

- Speech

- Esthetics

- Mucosal contact:

- Ridge lap

- Modified ridge lap

- conical

- No mucosal contacts:

- Sanitary

- Modified sanitary

1. Ridge lap pontic:

This pontic resembles a natural tooth, it is designed to adapt closely to the ridge. It is avoided because it is difficult to maintain and often leads to inflammation of the tissue in contact.

2. Modified ridge lap pontic:

Modified ridge lap pontic combines the best features of the hygienic and easy cleaning.

3. Ovate pontic:

These pontics are used in cases where the residual ridge is defective or incompletely healed.

4. Conical pontic:

It is recommended for mandibular posterior teeth where esthetics is of lesser concern.

5. Modified sanitary:

It presents a free flowing archway in the region adjacent to residual ridge.

Q#5: Classify dental bridges and explain its type briefly.

Ans: Definition Of Bridge:

- Any dental prosthesis that is luted, screwed or mechanically attached to natural teeth, tooth and / or implant abutments that furnish primary support for dental prosthesis.

- A bridge is a fixed dental restoration used to replace one or more missing teeth by joining an artificial tooth definitely to adjacent teeth or dental implants.

Material for construction of bridgework:

- The following materials are used for dental bridges.
- Metal
- Metal-ceramic
- All ceramic
- Acrylic

Different types of bridges:

1. Fixed bridge
2. Fixed movable
3. Cantilever
4. Spring cantilever

(1) Fixed Bridge:

Has rigid connector at both ends of pontics which forms a rigid prosthesis.

* Advantages:

- provide cross arch splinting.
- Ease of handling

* Disadvantages:

- possible bending of bridge
- Mobility of abutments may result in open margins
- All units have to be cemented simultaneously.

(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.

* Advantages:

- Allows flexure of mandible
- Allow units to be cemented as individual section.

* Disadvantages:

- More space required
- metal may show occlusally
- Food impaction

(3) Cantilever bridge:

Its 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 more retainer splinted together. e.g: Maryland bridge, rochette bridge.

* Advantages:

- preserve tooth structure
- Minimal pulp trauma
- Rebond possible

* Disadvantages:

- length of spring is limited to one pontic only.
- Occlusal force on the pontic encourage tilting of abutments tooth.
- Nit success for posterior prothesis.

(4) Spring cantilever bridge:

They are restricted to the replacement of upper incisor teeth . Only on pontic could be supported by a spring Cantilever bridge.

* Advantages:

- Restoration of space dentition.

* Disadvantages:

- Food impaction under metal connector
- Fracture of metal connector
- Dislodgement of retainer.

