Emergency treatment in endodontics

By:

Mohammed Turky
Lecturer of endodontics – Minia University
Lecturer of endodontics – South Valley University
What is the meaning of emergency?

What is the meaning of endodontic emergency?

Goals of emergency treatment

Classification of emergency cases
What is the meaning of emergency?

A sudden and urgent condition requiring an immediate action.

According to Dorland's medical dictionary
What is the meaning of endodontic emergency?

Pain and/or swelling caused by inflammation/infection of the pulpal or periapical tissues that require immediate diagnosis and treatment.
Goals of emergency treatment

- Relief of pain
- Infection control
Walton`s classification

- Pretreatment emergency
- Intertreatment emergency
- Postobturation emergency
Acute pulpitis

Acute pulpitis with acute apical periodontitis

Acute periapical abscess

Cellulitis

Pretreatment emergency
Acute pulpitis

Hot tooth
Diagnosis

Diffuse spontaneous pain

In advanced stages, pain is relieved with cold *Hot tooth*

Severe throbbing pain increased with both hot and cold

No pain on percussion

Radiographically no change periapically
Single visit is a matter of debate
Reduction of chances of bacterial growth in the canal between the visits

Access cavity + complete cleaning & shaping

Intra-canal medication

The best emergency treatment.
According to time & skills & complexity

Alternatively

Pulpectomy (pulp extirpation)

Pulpotomy (even with removal of the pulp from the widest canal)
No medications
Acute pulpitis with acute apical periodontitis
Diagnosis

Localized pain

+ve vitality test

Severe pain increased with hot and relieved with cold

Severe pain on percussion

Radiographically no change periapically or widening of PMS
Complete pulp removal in all the canals is the best.

If not pulpectomy
(pulp extirpation)
Occlusal reduction
Clinical tips

Effective anesthesia is a challenge

Why???

What's the solution???
Missed canal

- 2nd distal canal in lower molars
- 2nd canal in upper premolars
- 2nd canal in lower anteriors and premolars
- 4th canal in upper first molar
Acute periapical abscess
Diagnosis

Localized pain
-ve vitality test
Severe pain on percussion

With or without swelling

Radiographically
no change periapically
Or widening of PMS
Definite RI
**Types**

**Acute abscess from the first onset**
``De novo``
- No pus
- No radiographic changes or just widening of PMS

**Acute abscess from a chronic apical condition**
``Phoneix abscess``
- Pus
- Definite RL
Emergency ttt.

Intra-canal drainage

Artifistulation
Intra-canal drainage

Anesthesia:
Avoid infiltration Why???
1. Pain caused by injection
2. Spread of infection
3. Ineffectiveness of such anesthesia

If necessary Nerve block
• **Access cavity**
  Sharp bur in high speed...........to eliminate *vibrations*
• **Intra-canal drainage**
• In many cases occur immediately as soon as pulp chamber is perforated

• Other teeth appear to be dry >>>>>>>> A.C prevent drainage
Predictable pattern of drainage

**Pus**
(yellowish, whitish or greenish) + **Blood**

**Bloody discharge**

**Clear serum exudation**
Appearance of exudates is an indicator of the end of the drainage (15 min. to 2 hrs)
Instrumentation (mechanical preparation)

Crown down technique
Complete instrumentation (2009)
Intra-canal medication (calcium hydroxide)
Rotary is preferred to reciprocation
Side vented needles or EndoVac
• **Irrigation solution**
• At the initial stages >>>>>>>>>>>>>>> saline
• Later on, >>>>>>>>>>>>>>>>>>>>>>>> Naocl (Old schools)
Seal the access cavity

Or not
* Prevent persistent infection

* Prevent food impaction into the opened canals

* Prevent foreign bodies introducing into the canals

Very long initial appointment
Evidence- based guide


Medication

- **Sufficient drainage & patient afebrile**: no antibiotics
- **Insufficient drainage & patient febrile**: antibiotics
Artifistulation

Fig. Incision & drainage through drain
Artifistulation

**Indication**
- Insufficient intra-canal drainage
- Intra-canal drainage could not obtained ex. Casted post & core, heavily calcified canals.

**Prerequisites**
- Localized fluctuant swelling
or
Cortical Trephination (Surgical Drainage)

- It has very limited use
- Drainage through the root canal is preferred
- When there is pain without swelling
- **Location**: Above the Root apex
- Incision & then trephination using round bur
Clinical tips

Endodontic treatment can be completed in one visit after the drain is placed.

The drainage is able to dry the canal.

Completing the endodontic treatment eliminates the source of the infection.

The periapical lesion heals quicker.
Cellulitis

A: Vestibular abscess

B: Palatal abscess

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Cellulitis