

# Case presentation: endodontic treatment

Patient M.O., male, 24 years old

The initial consultation – March 26, 2025 – was performed by my colleague along with the radiological examination; afterwards, the patient was scheduled with me for an endodontic consultation



**Objective examination:** Discoloration of tooth 1.2



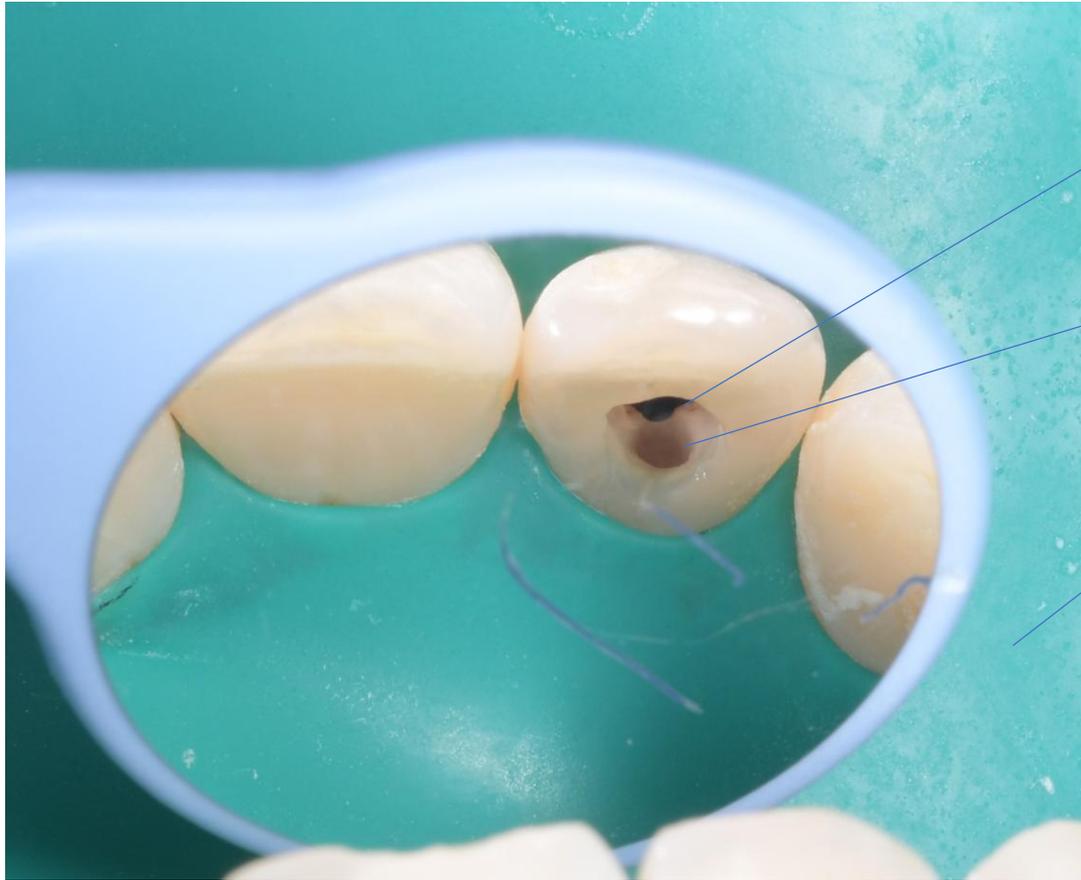
Caries in the palatal groove

**Diagnosis:**  
Chronic asymptomatic apical periodontitis and pulp necrosis (AAE)

Patient's reasons for presentation:

- Discoloration of tooth 1.2
- Increased mobility of tooth 1.2 compared to the other teeth
- No history of pain or pain at the time of presentation

## Session 1: April 24, 2025



Root canal

Caries in the palatal groove

Isolation with rubber dam at the level of the maxillary anterior group (from 1.4 to 2.1)

Access cavity

# Working length verification

Gutta-percha cone

The rubber dam clamp was placed on tooth 1.4



The apical lesion increased in size over the course of one month

Bone resorption extends mesially

Periapical radiograph

## Apical filling with bioceramic MTA

- during the first treatment session, the root canal was prepared using a rotary system and disinfected with sodium hypochlorite
- as the root canal was dry, I decided to perform the apical filling with MTA in the same session



Apical MTA plug

Residual MTA on the walls of the root canal

Periapical radiograph

## Session 2: April 29, 2025

Progression to an acute process: chronic vestibular abscess with acute exacerbation, with drainage of purulent secretion from the vestibular gingival groove



2 mm probing depth at the disto-vestibular point



6 mm probing depth at the centro-vestibular point



>15 mm probing depth at the mesio-vestibular point

# Root canal filling

Rubber dam clamp



Backfill with thermoplasticized gutta-percha

Periapical radiograph

Final radiograph

Coronal restoration with composite



Apical filling with MTA

Root canal filling with thermoplasticized gutta-percha

Periapical radiograph

## Coronal restoration



Colored purple flowable composite over the gutta-percha in the root canal



Occlusion check with Bausch articulating paper 40 $\mu$

## Working steps and materials used

- Consultation: medical history + pulp vitality test (negative to cold stimulation)
- Radiographic examination indicates the presence of an apical lesion (chronic asymptomatic apical periodontitis)
- Objective examination shows discoloration and increased mobility of tooth 1.2
- Performed plexus anesthesia and isolation with rubber dam (multiple isolation from tooth 1.4 to tooth 2.1)
- Access cavity prepared with a cylindrical diamond bur mounted on a turbine
- Canal preparation with Orodeka rotary instruments up to size 30.04 and irrigation with 5.25% sodium hypochlorite
- Canal length: 26.5 mm, apical diameter 55 – apical filling performed with bioceramic MTA
- The rest of the canal was filled with thermoplasticized gutta-percha
- Coronal restoration performed with bulk-fill composite and OA2 Tokuyama
- Occlusion checked with Bausch articulating paper 40 $\mu$

1-week follow-up: May 8, 2025



2 mm probing depth at the disto-vestibular point



4 mm probing depth at the centro-vestibular point

29.04.2025: 6 mm



7 mm probing depth at the mesio-vestibular point

29.04.2025: >15 mm

## Observations

- 1-week follow-up: decreased probing depths at the centro-vestibular (CV) and mesio-vestibular (MV) points of tooth 1.2, absence of purulent secretion from the vestibular gingival groove, improved appearance of the vestibular mucosa, no swelling, and reduced tooth mobility – signs indicating the beginning of the healing process of the endo-periodontal lesion
- The patient reports improvement of symptoms (particularly reduced mobility and resumption of mastication in the affected area)

3-month check-up: 1 August 2025



The palatal aspect of tooth 1.2 and the gingiva



The vestibular aspect of the gingiva and the movable mucosa

3-month check-up: 1 August 2025



2 mm probing depth at the disto-vestibular point



2 mm probing depth at the centro-vestibular point

8.05.2025: 4 mm



4 mm probing depth at the mesio-vestibular point

8.05.2025: 7 mm

3-month check-up

Reduction of  
the apical  
lesion



Formation of  
bone tissue  
along the  
mesial wall of  
the root



Periapical radiograph

Appearance after root  
canal filling



Periapical radiograph

## Observations

- 3-month check-up: no subjective symptoms; the patient has regained 100% of masticatory function in the affected area
- Radiological changes indicate a reduction of the apical lesion as well as bone tissue formation on the mesial wall of the tooth root
- Probing depths continue to decrease

6-month check-up: 23 October 2025



2 mm probing depth at the disto-vestibular point



2 mm probing depth at the centro-vestibular point

29.04.2025: 6 mm



3 mm probing depth at the mesio-vestibular point

29.04.2025: >15 mm



Radiological appearance

6-month check-up



Appearance of the vestibular mucosa

6-month check-up

Reduction of the apical lesion

Formation of bone tissue along the mesial wall of the root



Periapical radiograph

Appearance after root canal filling



Periapical radiograph

## Observations

- 6-month check-up: subjective symptoms are still absent
- probing depths are within normal limits
- radiological changes indicate healthy interdental bone tissue, with no radiolucency at the mesial wall of the root. At the level of the apical lesion, there is a considerable reduction in lesion diameter, as well as pronounced radiopacity compared to the radiograph taken after the root canal filling

Thank you!