Fractura coronae dentis
Tooth 21

A 10-year –old boy suffered an injury 3 days earlier, hospitalized due to suspicion of concussion. After leaving the hospital, he came to my office with his father.

Clinical and radiological examination confirmed:
21 Fractura coronae dentis oblique , subgingivalis cum denudatio pulpae ,
11-subluxation dentis
32,41,42,- fractura coronae dentis

The mucosa of the lips and the vestibule of the mouth with minor abrasions that do not require surgical supplies.

Palatal view

Tooth pulp is visibile between the fragments.

Panoramic radiograph taken 3 days after the injury.

Tooth 21 Radiological examination revealed an oblique subgingival fracture through the pulp chamber. Two fracture lines are visible.

Possible treatment (wg J.O Andreasen) :

1. Removal of the fractured fragment and surgical exposure of the subgingival fracture,
2. Removal of the fractured fragment and orthodontic extension,
3. Removal of the fractured fragment and surgical tooth extrusion,
4. Tooth extraction.

Due to the young age of the patient, there are no signs of severe inflamation of the marginal gingiva , good cooperation with the patient and possibility of working with the magnification I desided to leave the tooth fragment and biologically treat the tooth with the use of bioceramic materials.

On the labial side, the damage to the tooth is greater with cavities in enamel and dentin.

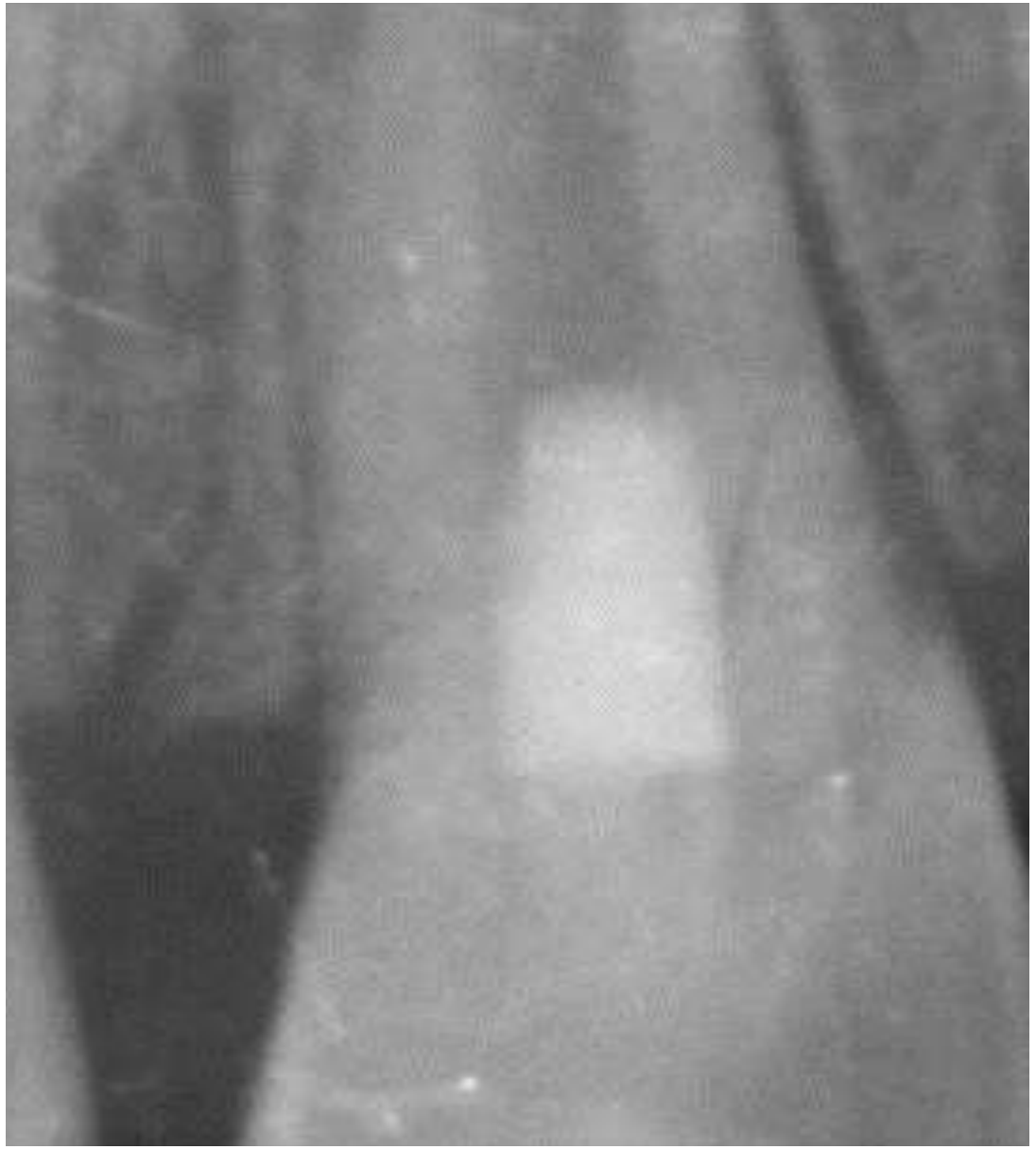
After infiltration anesthesia with 4 % Ubistesin Forte, the tooth was cleaned with a paste with pumice. Then, with a diamond drill access to the tooth chamber was made from the labial side, which was more damaged. Thanks to this, a good view into the tooth chamber was obtained and on the palatal side there was a clear fracture line, which allowed for an acurate reposition of the fragment.

A large diamond ball on the turbine cooled with NaCl, The pulp was removed from the pulp chamber and canal below the fracture line..

The remains of the pulp from the chamber were removed with a microopener #10.

Pulp without visible inflammatory features.

With high magnification of the microscope (12X), bioceramic material (Total Fill Putty) was applied directly to the pulp . Small portions of material were condensed with paper points #80. After inserton of the material ,the chamber was secured with a sterile cotton ball and the whole chamber was rinsed with water and dried. The fracture fissure was perfectly clean with no blood or exudate .



Total Fill BC RRM Putty.

The tooth was etched and a bonding system was applied in the supra-gingival part Clearfill SE.

Then bioceramic material (ACTIVA) was applied directly to the fracture fissure. The broken fragments were carefully fitted and the dentin was allowed to self-etch for 1 minute . Cured with a polimeration lamp for 20 sec. from the labial and palatal side in the area of the tooth neck.

Ever X Flow –Dentin, G-aenial Injectible A1, XBW

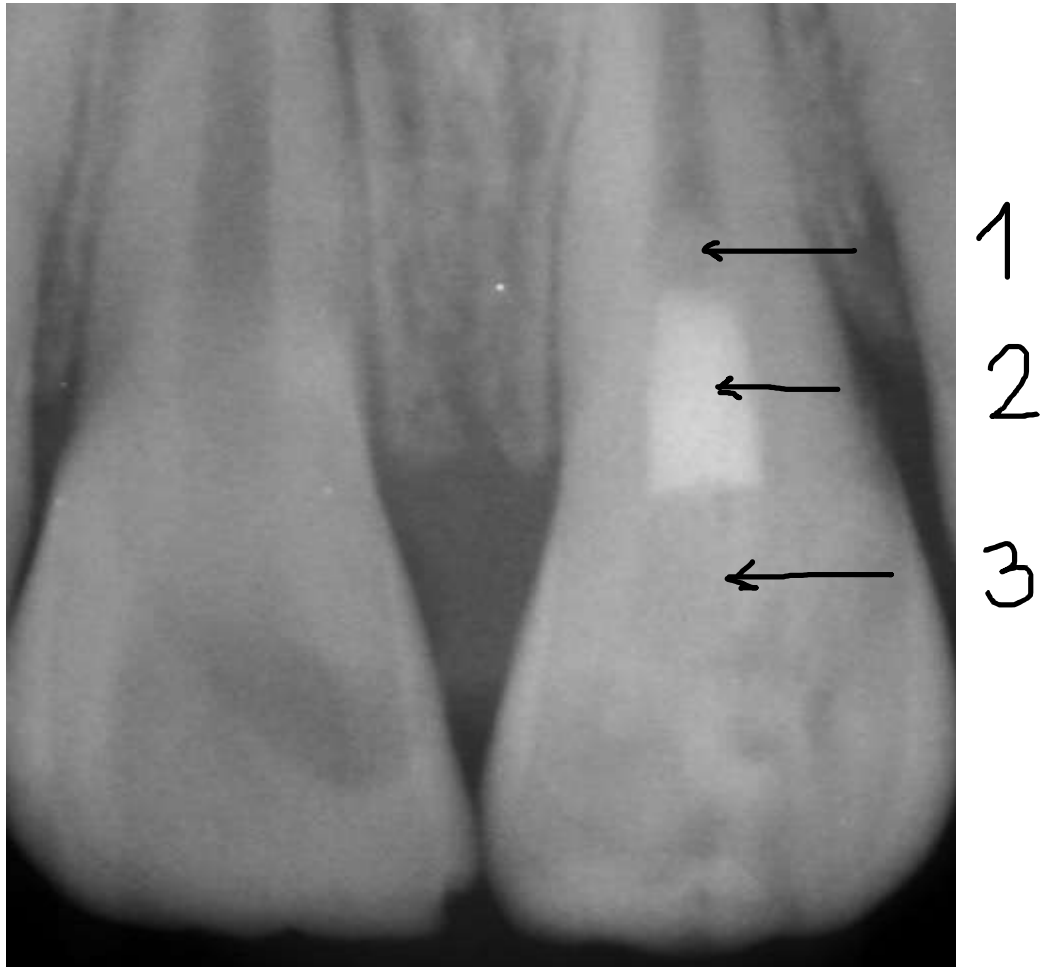
2020.07 (1 month)

2020.11. (3 months)

Pre-op 2020.06

Post-op 2020.06

2021-06 (12 months)

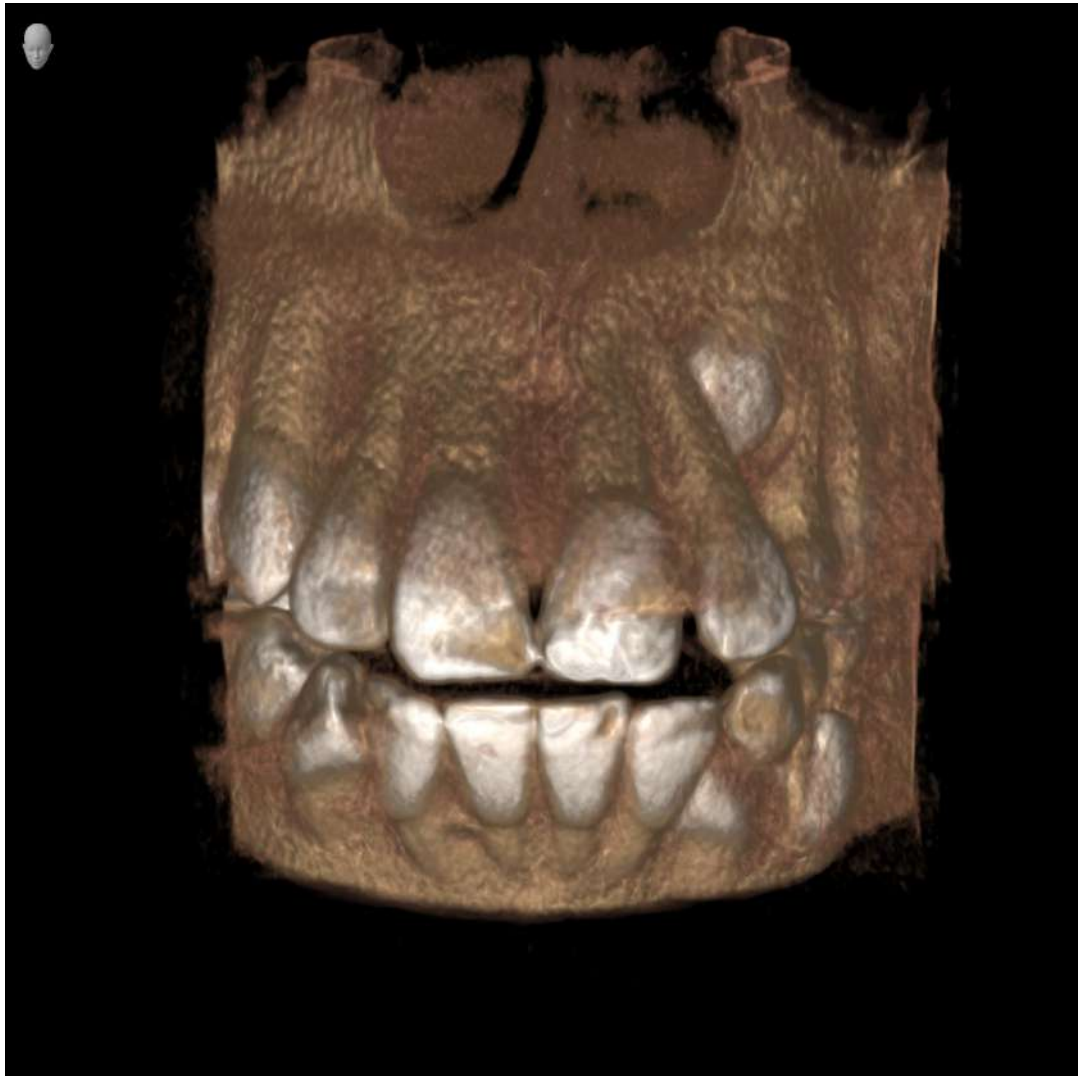


1. Dentinal brigde
2. Total Fill
3. EverX-D, G-aenial A1

12 months follow-up.

Post-op

Follow-up 2,5 years



CBCT FOV 5cmx5,5cm. Axeos (Sirona)

CBTC FOV 5cmx5,5cm Axeos (Sirona)

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Axeos (Sirona)