

Root Canal Treatment of a Second Mandibular Molar with Geminated or Fused Supernumerary Tooth with a Large Periapical Lesion

A Case Report with 4.5-year Follow-up

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Aim

The aim of this report is to present an atypical mandibular second molar with geminated or fused supernumerary tooth with a large periapical lesion managed by root canal treatment.

Case presentation

The chief complaint of a 42-year-old male was feeling the molar too high and having an abnormal sensation. The clinical examination revealed that tooth #47 had an unusual coronal morphology with a bifid crown (Fig 1). The buccal aspect of the tooth resembled that of a normal molar but had a mesial extension that looked like a fused tooth (Fig 2). The overall size of the molar was much larger than the average lower second molar. The intraoral periapical radiograph (Fig 3) revealed a complex root with connection of the mesial root of the molar and the supernumerary tooth.

The supernumerary tooth showed its own pulp chamber. A large periapical lesion was present. CBCT (Fig. 7) revealed the presence of two roots, mesial and distal. The mesial root had complex channel morphology and possible connection with the root canal of the supernumerary tooth. Root canal treatment was performed via two access cavities. The treatment was completed (Fig. 4) with the use of a dental operating microscope. The treatment summary is presented in Table 1. The patient was followed-up for 4.5 years.

Discussion

Post-treatment the patient was asymptomatic with no signs of infection. The 1 year radiograph (Fig. 5) showed huge reduction of the periapical lesion. The 4.5 year radiograph (Fig. 6) was not that conclusive and the lesion seemed grown. CBCT was taken to have better evaluation of the lesion and has reference when following its development in the future.(Fig. 7)

Conclusion

The second right mandibular molar had a unique anatomy and canal system. Effective shaping, cleaning and irrigation of the complex canal shape plus thermoplastic root filling aided the satisfactory healing of the periapical lesion.

Diagnosis	Symptomatic Apical Periodontitis
Complications	Separated instrument - 2 visits
Preparation	Protaper Gold, last file F3
Irrigation	NaOCL 3%-EDTA 17%- sonic activation
Obturation	Continuous wave technique
Restauration	SE Bond, selective etching, SDR, Herculite HCV composite

Table 1: Treatment summary



Figure 1: Intraoral photograph occlusal-view



Figure 2: Intraoral photograph buccal-view



Figure 3: Preoperative X-ray 30.06.2019



Figure 4: Postoperative X-ray 08.07.2019



Figure 5: 1 year follow-up 07.09. 2020



Figure 6: 4.5 years follow-up 07.12. 2023

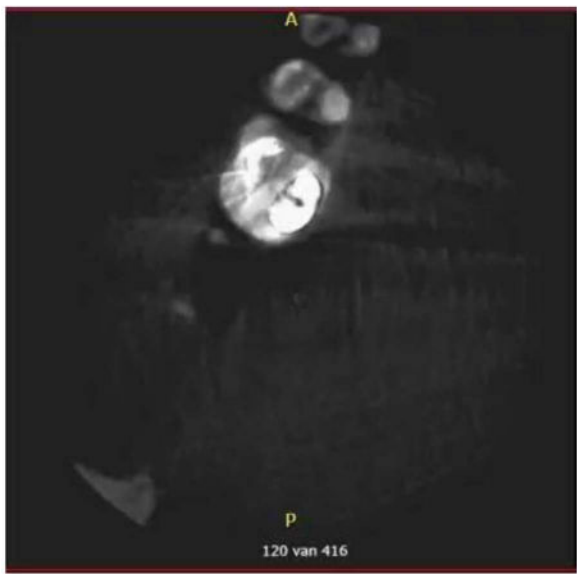


Figure 7: Preoperative CBCT 01.07.2019

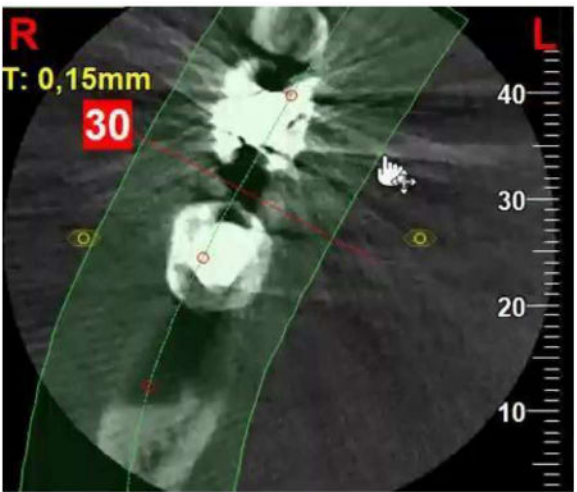


Figure 8: 4.5 years follow-up CBCT 08.02.2023