

Diagnoses of a Solid Pulp Stone (Denticle¹) in the Pulp Chamber and Coronal Portion of the Root Canal of a Maxillary Canine by means of Cone Beam Computed Tomography.

© Ass.Prof. Dr. Katarina Beljic-Ivanovic
Department of Restorative Odontology and Endodontics,
School of Dental Medicine, University of Belgrade

CASE STUDY

A 45-year-old female patient was referred to our Department complaining of undefined symptoms in the region between the canine and premolars in the upper right maxillary jaw.

Due to an extreme nausea all attempts to acquire an intraoral radiograph were in vain and the patient was sent for a CBCT scan with a small field of view (SCANORA® 3Dx, SOREDEX, Finland).

A detailed CBCT image analyses (OnDemand3D™, Korea) and a clinical review of all teeth revealed a huge pulp stone of the right maxillary canine, which extended from the roof of the pulp chamber throughout the entire coronal portion of the root canal.

This pathologic finding is extremely rare in an endodontic practice. (Fig. 1-9).

¹Pulp stone or denticles are nodular, calcified masses appearing in either or both in coronal and root portions of the pulp organ in teeth. They are classified as follows:

A) on the basis of structure

- 1) true denticles - formed by odontoblasts, and
- 2) false denticles - formed by an accumulation of mineral around debris, often in a concentric manner.

B) on the basis of location

- 1) free: they are entirely surrounded by pulp tissue.
- 2) attached: they are partly fused with dentine.
- 3) embedded: they are entirely surrounded by dentin.

Source: Wikipedia, the free encyclopedia

CASE STUDY

The sagittal (Fig. 1), coronal (Fig. 2), axial (Fig. 3, arrow),

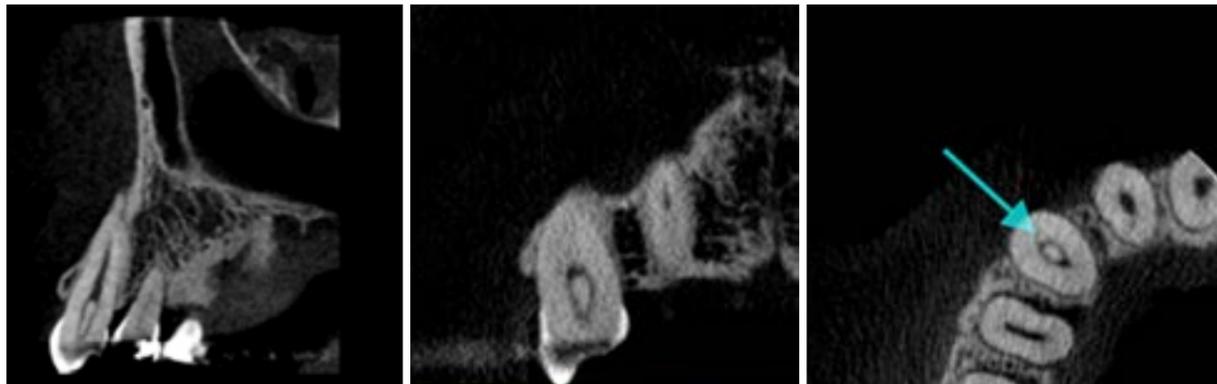


Fig. 1
Fig. 2
Fig. 3
Fig. 1-3 Sagittal, coronal and axial views of the pulp stone.

and 3D rendered sagittal (Fig. 4, circle) and axial (Fig. 5) projections visualize the presence of the huge pulp stone very clearly, also indicating its shape and location.

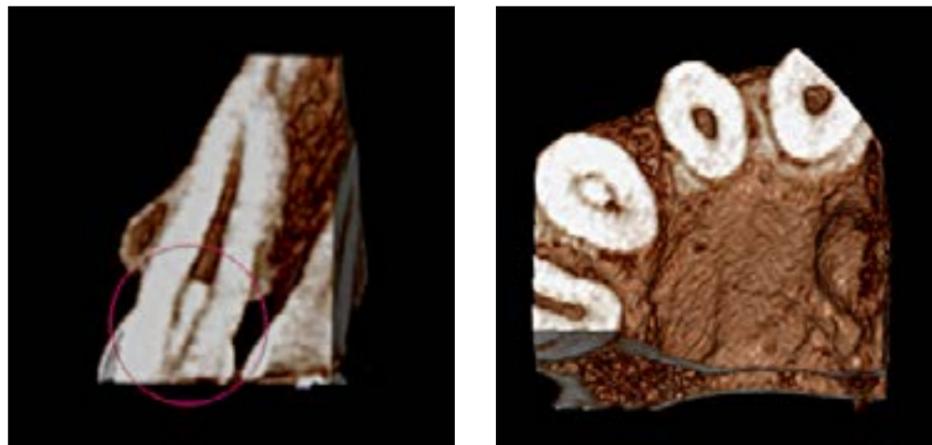


Fig. 4-5 VR rendered sagittal and axial views of a solid pulp stone.

CASE STUDY

The positioning of the endoscope tool is presented in Fig. 6 and 7. Figures 8 and 9 present this endoscopic view of the pulp stone in two different distances from the apex (apical – incisal).

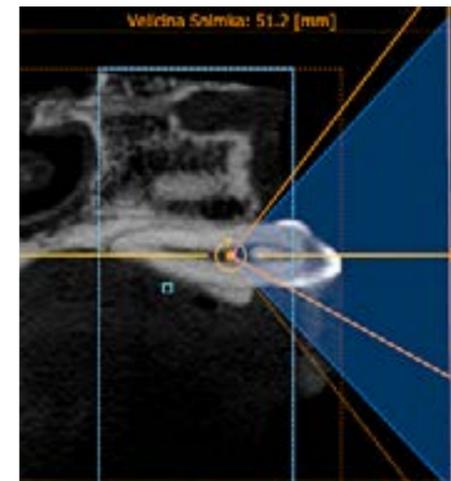


Fig. 6 Endoscopic bias 1



Fig. 8 Endoscopic view 1, a-i

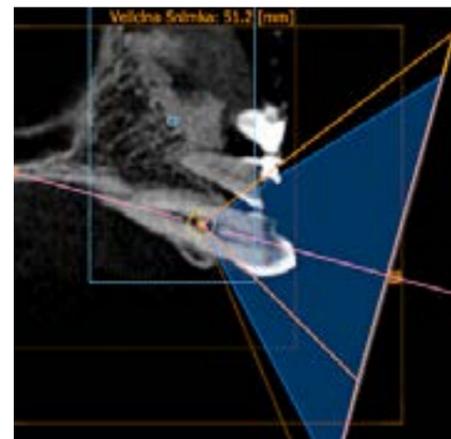


Fig. 7 Endoscopic bias 2

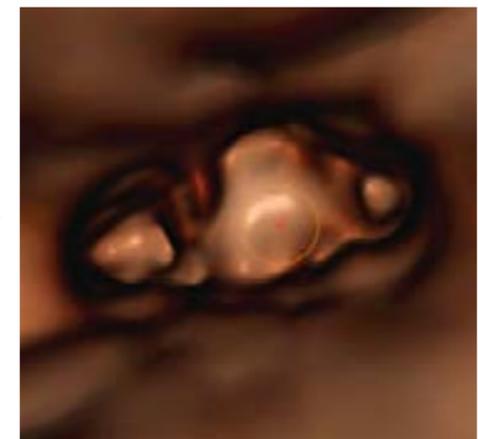


Fig. 9 Endoscopic view 2, a-i

Conclusion

According to the SEDENTEXCT guidelines CBCT imaging may give considerable support in the endodontic field. In order to gain the maximum benefit the imaging parameters must be carefully chosen and the image editing has to be performed professionally.