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[Home](#)

[Search Proceedings](#)

[Author Index](#)

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Back to Session: [Poster session 5](#)

Abstract No.: P-125

Title: **Cone beam computed tomography (CBCT) improving the diagnosis and treatment of internal root resorption-a case report**

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Abstract: Study objectives: Injuries to or irritation of the tooth pulp could cause internal root resorption. Using cone beam computed tomography (CBCT) images can assist traditional periapical film in diagnosis and treatment in internal root resorption cases. Materials and Method: A case of extensive internal root resorption affecting tooth 12(FDI) in a 45-year-old female patient. She was referred to Endodontic Department, China Medical University Hospital. Periapical film showed a round internal root resorption near the coronal third. CBCT images revealed that a volume of 3.3 (bucco-lingually) X 4.2 (mesio-distally) X 2.5mm (inciso-apically) resorption of this root canal. Results: The root canal was applied with rubber dam application, thoroughly cleaned and shaped, and then calcium hydroxide [Ca (OH)₂] was dressed for 2 weeks. The apical third was obturated with gutta-percha, and the internal root resorpted space was restored with mineral trioxide aggregate (MTA). The access cavity was sealed with light cured composite resin. At the three-month follow-up examination for this patient, the tooth was noted to be asymptomatic and radiographic re-assessment showed commencement of periapical healing. Conclusion: CBCT is characterized by the rapid acquisition of volume images from a single low-radiation-dose scan of the patient and is of value in getting more information displayed 3D images on internal root resorption of root canals. The correct diagnosis of these internal root resorption cases by the analysis of preoperative 2D radiographs and 3D CBCT images can help the dentists get more information in doing better treatment and avoiding root therapy failure for such cases.

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