

# Images of Complex Extraction of Hypercementosed Molar

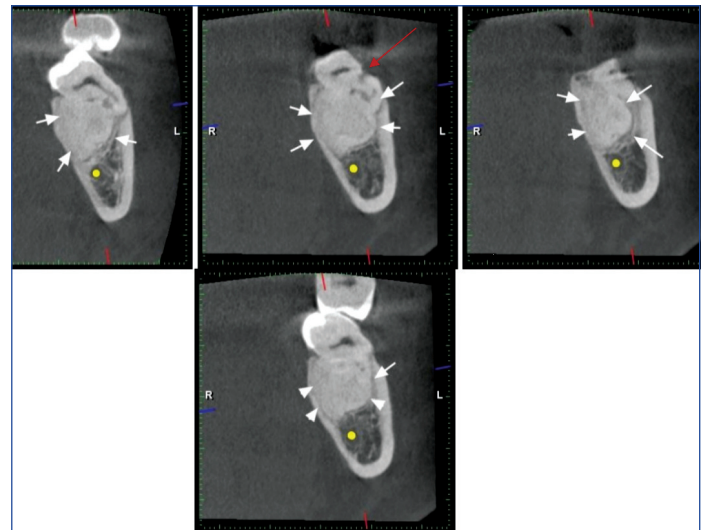
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**Keywords:** Alveolar bone damage, Cementum, Hypercementosis, Radiopaque

A 49-year-old male presented to the Department of Oral and Maxillofacial Surgery with a chief complaint of moderately severe pain in the lower left back tooth region and difficulty chewing for two weeks. An intraoral examination revealed that tooth 38 was mesially and lingually angulated, and tooth 37 was clinically missing. A Cone Beam Computed Tomography (CBCT) scan showed that the crown of tooth 38 was oriented towards the lingual cortex, with the roots displaced above the alveolar crest.

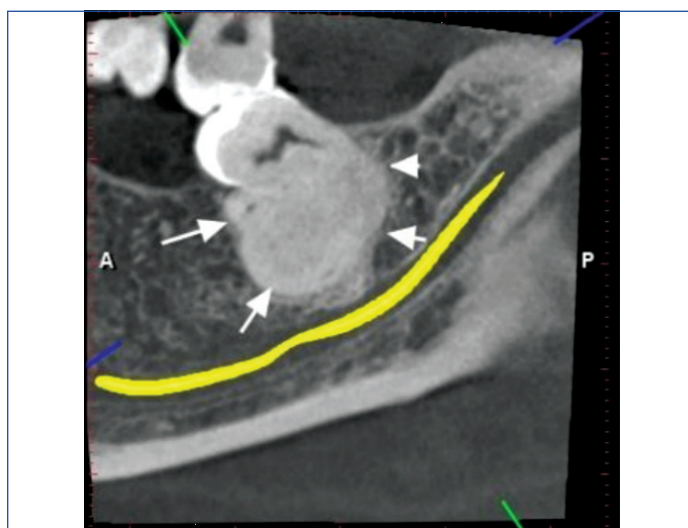
A well-defined, markedly radiopaque mass has a rounded appearance around the mesial and distal roots of tooth 38, mainly overlying and obliterating the mesial root. This radiopacity has a radiolucent peripheral rim and measures 13×16×14 mm in dimensions (superoinferiorly, mesiodistally, and buccolingually) [Table/Fig-1]. The radiopaque mass extends from the alveolar crest to 1 mm above the superior cortex of the inferior alveolar nerve canal and 12 mm above the inferior border of the mandible superoinferiorly. The buccal and lingual aspects of the radiopaque mass are in contact with the buccal and lingual cortices, respectively. The mesial and distal aspects of the radiopaque mass face the alveolar bone. The inferior aspect of the radiopacity is located 1 mm above the superior cortex of the inferior alveolar nerve canal [Table/Fig-2]. There is thinning of the buccal and lingual cortices, but no signs of buccal or lingual cortical expansion or erosion are noted. A well-defined radiolucency was observed at the cervical third of the distal aspect of the distal root, involving the cementum, dentin, and pulp, suggestive of deep dentinal caries (root caries). The apical third of the buccal side of the distal root was observed along the buccal cortex [Table/Fig-2]. The provisional diagnosis was made as cementoblastoma associated with tooth 38, with a differential diagnosis of severe hypercementosis. The planned treatment was the extraction of tooth 38. The extraction procedure involved administering local anaesthesia, creating a mucoperiosteal flap, and removing the bone over the buccal aspect of the tooth [Table/Fig-3].



**[Table/Fig-2]:** Coronal sections showing radiopaque mass w.r.t 38. Deep dentinal caries was also noted (red big arrow).



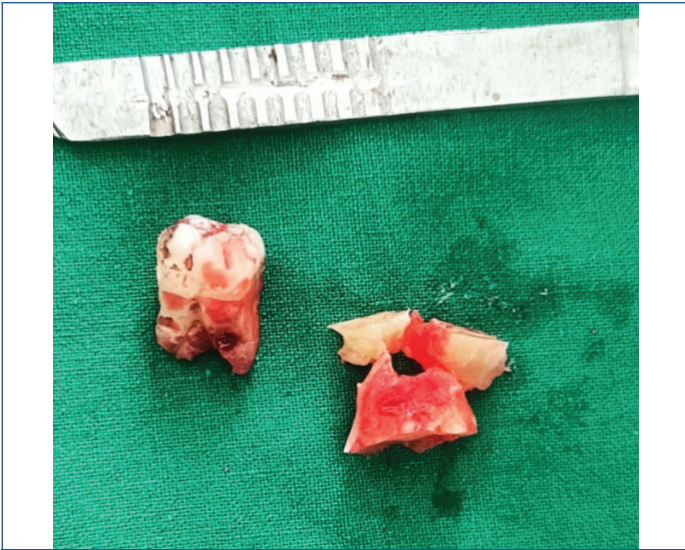
**[Table/Fig-3]:** Mucoperiosteal flap elevation and removal of bone in the buccal aspect of 38.



**[Table/Fig-1]:** Sagittal section showing radiopaque mass w.r.t to 38.

The tooth was removed, and the mass was sectioned to facilitate removal [Table/Fig-4]. Notably, the extracted root had a bulbous deposition of cementum. The site was then irrigated, the flap repositioned, and sutured, and postoperative care instructions were provided. The procedure was completed successfully, and a three-month follow-up showed significant healing of the extracted site. The extracted tooth and the sectioned mass were sent for histopathological examination. The findings confirmed hypercementosis associated with tooth 38. Hypercementosis is a non neoplastic condition involving excessive cementum deposition along the normal root cementum, with the premolars being the most affected teeth [1].

Some cases of hypercementosis are idiopathic, other aetiological factors include: The loss of an antagonist tooth, which can cause



**[Table/Fig-4]:** Extracted 38 and sectioned mass.

a tooth to erupt more than usual, inflammation at a tooth's apex due to trauma from occlusion, concrescence, carious lesions, and apical periodontitis, intensive masticatory effort, and systemic conditions [2,3].

Age-related increases in the severity of hypercementosis were as follows: no incidence was reported for those under 19 years; 14.1% for those between 20 and 24 years; 57.7% for those aged 25 to 29 years; 83.0% for those aged 30 to 39 years; 92.7% for those aged 40 to 49 years; 93.4% for those aged 50 to 59 years; and 96.8% for those aged 60 years and above [3]. Proper assessment and precise execution are crucial for successful outcomes in such extraction cases. According to Basdra EK et al., hypercementosis is a non neoplastic condition in which excessive cementum is deposited in continuation with the normal radicular cementum [4]. It

is largely an age-related phenomenon. The early type seen in young persons is rather uncommon. Apart from the idiopathic nature of hypercementosis, the condition is associated with several local and systemic factors [2]. Hypercementosis per se does not require treatment; however, problems may arise whenever extraction of affected teeth is necessary. In such cases, prior sectioning of the teeth may be required. Any radiopaque structure around the root, such as a dense bone island or mature cemento-osseous dysplasia, may be included in the differential diagnosis [3]. The existence of the periodontal membrane space surrounding the hypercementosis is the distinguishing feature. It might sometimes resemble a cementoblastoma. Hypercementosis can also occasionally arise on a highly dilacerated root [5].

In conclusion, managing complications during the extraction of hypercementosed teeth requires meticulous planning, skillful execution, and adaptability to unforeseen challenges. Despite careful preparation, complications such as root fractures, damage to adjacent teeth, or sinus perforation may arise. Prompt recognition and appropriate management are essential to minimise patient discomfort and prevent further complications.

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### AUTHOR DECLARATION:

- Financial or Other Competing Interests: None
- Was informed consent obtained from the subjects involved in the study? Yes
- For any images presented appropriate consent has been obtained from the subjects. Yes

### PLAGIARISM CHECKING METHODS: [Jain H et al.]

- Plagiarism X-checker: Aug 03, 2024
- Manual Googling: Sep 10, 2024
- iThenticate Software: Oct 12, 2024 (17%)

### ETYMOLOGY: Author Origin

### EMENDATIONS: 7

Date of Submission: **Aug 03, 2024**

Date of Peer Review: **Sep 06, 2024**

Date of Acceptance: **Oct 14, 2024**

Date of Publishing: **Nov 01, 2024**