

PSEUDO TEETH- A CONE BEAM COMPUTED TOMOGRAPHY ARTEFACT**Sahana K.¹, Vijayendranath Nayak*¹, Raghavendra Kini², Prasanna Kumar Rao³, Gowri P. Bhandarkar⁴,
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ABSTRACT

Artefacts are common in Cone beam computed tomography (CBCT). There can be many reasons for the artefacts usually it can be due to discrepancies between the mathematical modelling and the actual physical imaging process. Artefacts seen in CBCT are Extinction artefacts, Beam hardening artefacts, Partial volume effect and EEGE, Aliasing artefacts, Ring artefacts; and. Motion artefacts (misalignment artefacts). Since artefacts may interfere with the diagnostic process performed on CBCT, every user should be aware of their presence. Herein we report a case on Beam hardening artefact seen in CBCT.

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A 22 years old female patient has visited the outpatient department with the requisition for CBCT (cone beam computed tomography) of maxillary arch. CBCT on 3D reconstruction, revealed a structure resembling the tooth, lying horizontally adjacent to buccal aspect of left maxillary second premolar crown extending till coronal aspect of maxillary left third molar thus giving a illusion of hanging tooth.(FIGURE 1A).

However on axial section, tooth was not evident, suggesting that it could be a CBCT artefact. (FIGURE

1B) The artefact was probably due to the beam hardening effect by the metallic restoration on the maxillary first molar. CBCT is mainly designed for imaging the orofacial area, which is suitable for diagnosing any pathology. As they say, "Every good thing has a dark side" CBCT is not a exception. The dark side of CBCT is contributed by the artefact. Artefact may simulate pathology often leading to a misdiagnosis.^[1] though various forms of artefacts are encountered in CBCT; the most highlighted is beam hardening artefact which was observed in the above case. As the beam passes through object like metal serves as a filter within the object and lower energy waves are emitted resulting in dark streaks.^[2,3,4,5]

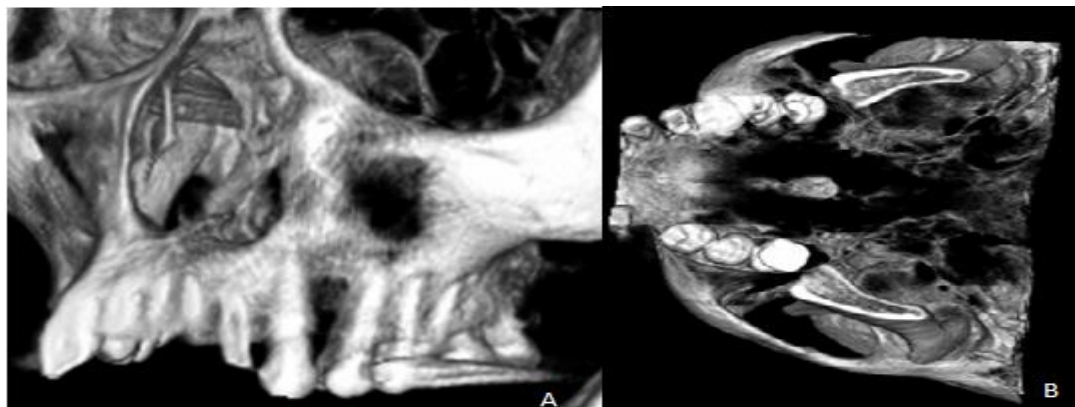
**FIGURE 1**

FIGURE LEGENDS

FIGURE 1A-Showing tooth like structure, lying horizontally adjacent to buccal aspect of left maxillary second premolar.

FIGURE 1B-Showing tooth like structure, lying horizontally adjacent to buccal aspect of left maxillary second premolar.

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