

REVIEWER'S REPORT

Manuscript No.: IJAR- 58404

Title: INCIDENTAL DETECTION OF A BIFID MANDIBULAR CONDYLE ON CONE-BEAM COMPUTED TOMOGRAPHY: A CASE REPORT,

Recommendation:

Accept after minor revision

Rating	Excel.	Good	Fair	Poor
Originality		✓		
Techn. Quality			✓	
Clarity			✓	
Significance	✓			

Reviewer's ID: Bilqees Hamza

Detailed Reviewer's Report

The manuscript entitled "Incidental Detection of a Bifid Mandibular Condyle on Cone-Beam Computed Tomography: A Case Report" presents an interesting and clinically instructive case of a rare anatomical variation of the temporomandibular joint. The author describes a twenty-two-year-old Turkish male patient who initially presented with dental pain in the left mandibular posterior region. During the diagnostic workup, which progressed from a traditional two-dimensional panoramic radiograph to a high-resolution three-dimensional cone-beam computed tomography scan, a left-sided bifid mandibular condyle was incidentally discovered. Along with this rare condylar anomaly, the three-dimensional imaging also revealed several other clinically significant pathologies, including a well-defined hypodense lesion between the mandibular premolar and molar teeth, apical periodontitis associated with a previously root-canal-treated molar, and bilateral maxillary sinus air-fluid levels. The patient was subsequently referred to the appropriate dental and medical specialties for multidisciplinary management.

This case report holds significant clinical value for dental practitioners and maxillofacial specialists alike. The temporomandibular joint is a complex ginglymoarthrodial synovial joint, and its proper function is heavily dependent on the precise morphology of its hard and soft tissue components. The bifid mandibular condyle is an uncommon morphological anomaly characterized by a double-headed condylar structure, with a reported prevalence ranging between 0.018% and 3.5% in the literature. Although often developmental and asymptomatic, this condition can sometimes lead to clicking, pain, limitation of jaw movement, or even joint ankylosis. The manuscript successfully underscores the critical role of three-

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dimensional cone-beam computed tomography in modern dental practice, demonstrating its superior geometric resolution, lower radiation exposure, and overall diagnostic superiority compared to conventional panoramic radiography and standard medical computed tomography when evaluating subtle osseous changes of the temporomandibular joint.

The paper is logically structured, describing the clinical presentation, radiographic findings, and anatomical features of the joint with commendable clarity. The coronal cone-beam computed tomography image provided in the manuscript is of excellent quality and clearly demonstrates the characteristic "heart-shaped" or double-curved configuration of the left mandibular condyle. However, while the clinical core of the paper is solid, the manuscript suffers from severe formatting issues, duplicate sections, stray draft watermarks, and minor omissions in the clinical discussion that must be corrected before the article is suitable for publication and indexing.

Detailed Discussion on the Suggestions for the Improvement of the Article

1. Eradicating Stray Text Fragments and Structural Formatting Artifacts

The manuscript contains numerous fragmented words and stray letters scattered throughout the text, which appear to be remnants of a draft template or a publisher's watermark. On page one, under the abstract, the isolated phrases "WIN W", "IN", "detailed", and "IJ" appear as disjointed lines of text. In the case presentation, under the clinical findings section, the word "Con" is erroneously duplicated before "Cone-beam" on line 12, resulting in the typographical error "Con Cone-beam computed tomography". In the discussion section, on line 102, there is a missing period and space between the word "joint" and "These", causing the sentence to run together awkwardly as "temporomandibular joint These". On page three, immediately following Figure 1, the stray fragment "ndibul" is printed on line 134. Finally, on page six, the fragment "UNDER PE" is left floating on line 240. These typographical and structural artifacts severely detract from the academic professionalism of the paper. The author must perform a meticulous proofreading pass to locate and delete all such stray characters and formatting fragments.

2. Resolving the Duplicated Reference List

A major structural error in the manuscript's organization is the complete duplication of the bibliographic reference list. The references, numbered one through twenty-five, are fully listed on page four (lines 135 to 184) and are then repeated in their entirety on page five (lines 185 to 239). This duplication is a significant layout error that must be resolved prior to publication. The author must entirely delete the second, redundant references section on page five, ensuring that only one clean, properly formatted, and contiguous bibliography remains at the end of the manuscript.

3. Correlating Left-Sided Joint Symptoms with the Bifid Condyle

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In the clinical findings section, the author notes that the patient presented with a clicking sound on the left side of the temporomandibular joint. Furthermore, the examination revealed that the patient's chin deviated toward the left during mouth opening before returning to the midline at maximum opening. Interestingly, the incidentally detected bifid mandibular condyle was also located on the left side. Despite these matching lateralities, the author states in the abstract and discussion that the bifid condyle was detected "incidentally" and implies it may be entirely asymptomatic.

The discussion section would be substantially improved if the author expanded on the potential physiological connection between the left-sided bifid condyle and the patient's objective clinical joint symptoms. While the dental pain in the left lower molar region was clearly odontogenic, originating from the deep carious lesion on the tilted tooth 37, the clicking and jaw deviation on the left side are classic functional signs of temporomandibular joint dysfunction. The double-headed morphology of a bifid condyle can alter the normal sliding and hinge movements of the joint, potentially leading to disc displacement or abnormal condylar pathways during translation. The author should discuss whether these clinical joint signs are likely directly related to the morphological changes of the left condyle, or if they could be secondary to the patient's dental occlusion, particularly given the long-standing loss of tooth 36 and the subsequent mesial tilting of tooth 37, which can cause significant occlusal disharmony. Addressing this relationship will provide readers with a more nuanced, clinically practical understanding of how morphological variations manifest functionally.

4. Clarifying the Maxillary Sinus and Hypodense Lesion Omissions

The cone-beam computed tomography scan revealed two other major non-odontogenic findings that require slightly more clinical context. First, the author reports the presence of air-fluid levels in both maxillary sinuses, which is highly indicative of acute or acute-on-chronic maxillary sinusitis. Although the patient was referred to the Otorhinolaryngology department, the manuscript does not mention whether the patient reported any classic sinonasal symptoms, such as nasal congestion, rhinorrhea, facial pressure, or headaches. The author should clarify whether these sinus findings were completely silent or if they correlated with any overlooked upper respiratory complaints.

Second, a well-defined hypodense lesion measuring approximately $9.0 \times 9.3 \times 6.5$ mm was identified in the alveolar bone between teeth 35 and 37. While a provisional diagnosis of a focal osteoporotic bone marrow defect was made and the patient was referred to Oral and Maxillofacial Surgery for a biopsy, the final outcome of this biopsy is not mentioned. If the biopsy results or follow-up data are available, including them would greatly enhance the educational completeness of the case report. If the patient was lost to follow-up or if the biopsy is still pending, the author should explicitly state this limitation in the case presentation to provide closure to this diagnostic thread.

International Journal of Advanced Research

Publisher's Name: Jana Publication and Research LLP

www.journalijar.com

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Recommendation to the Editor

Accept with Minor Revisions

Comments to the Editor

The manuscript describes a clinically engaging and educational case of an incidentally detected bifid mandibular condyle. The presentation highlights the diagnostic utility of cone-beam computed tomography in identifying silent hard-tissue anomalies of the maxillofacial skeleton that would otherwise remain hidden or poorly defined on conventional panoramic radiographs. The imaging is of high quality, and the clinical description of the patient's dental status is very thorough.

However, the draft requires minor revisions to correct several presentation and editorial deficiencies before final publication. The author must remove the completely duplicated reference list on page five and excise the multiple stray text fragments and draft watermarks scattered across pages one, two, three, and six. Additionally, the clinical value of the paper would be significantly elevated if the author expanded the discussion to explore the likely relationship between the patient's left-sided joint clicking and deviation and the left-sided bifid condyle, and clarified whether the bilateral maxillary sinus air-fluid levels were symptomatic. These changes are straightforward to implement and will result in a highly polished, publishable case report.