

## CASE REPORT

# Torus Mandibularis with Supernumerary Teeth: A Unique Case

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## Abstract

**Introduction:** In daily clinical practice, dental practitioners encounter numerous variations of normal anatomy. Two notable developmental variations are torus mandibularis and supernumerary teeth. Torus mandibularis is a benign bony exostosis arising on the lingual surface of the mandible, whereas supernumerary teeth, or hyperdontia, refer to the formation of additional teeth beyond the normal dental complement.

**Objective:** The aim of this case report is to present a rare coexistence of torus mandibularis and supernumerary teeth.

**Observation:** A patient presenting with mandibular tori and multiple supernumerary teeth was evaluated clinically and radiographically using panoramic imaging and cone-beam computed tomography (CBCT). The case highlights the anatomical characteristics, diagnostic considerations, and potential treatment challenges associated with the coexistence of these developmental anomalies.

**Conclusion:** Although torus mandibularis and supernumerary teeth arise from different developmental processes, their coexistence may influence clinical decision-making. Comprehensive assessment and a multidisciplinary approach are important to ensure appropriate management and optimal patient outcomes.

**Keywords:** Torus mandibularis; Supernumerary teeth; CBCT.

## 1. Introduction

Dental development is a complex biological process influenced by genetic, biomechanical, and environmental determinants. Variations in this process can give rise to anatomical deviations that, while often benign, have clinical significance for dental practitioners [1]- [3].

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Torus mandibularis and supernumerary teeth are among the most frequently encountered developmental anomalies of the oral cavity. Torus mandibularis represents an osseous proliferation, whereas supernumerary teeth reflect disturbances in odontogenesis [4]- [6].

Both conditions are often identified incidentally during routine examinations; however, their presence can interfere with oral hygiene, prosthodontic rehabilitation, orthodontic alignment, and overall patient comfort. A detailed understanding of their origins, potential complications, and management strategies enables clinicians to provide optimal, patient-centered care. The aim of this case report is to present a unique case and discuss its associated treatment considerations.

## 2. Case Report

A 32-year-old student from Ghana was seen in the College dental department for a routine dental assessment and cleaning. She presented with multi-lobed tori and two supernumerary teeth per side. (Figs. 1A and B) The right side had one horizontally impacted tooth and an erupted rotated tooth while the left side had two erupted rotated teeth which were evident on the panorex. (Fig. 1C) There was enough room for the tongue to move smoothly between them. She did not have any swallowing or speech issues. She reported some “sore gums” on the right side attributed to the impacted tooth.



**Fig. 1.** (A) Clinical view with tongue retracted. (B) Clinical view with tongue elevated showing movement of frenum between tori. (C) Panorex of patient showing impactions and supernumerary teeth.

A Cone Beam Computed Tomography (CBCT) was performed (Fig. 2) which demonstrated the degree of tooth impaction and rotation (Figs. 3 A and B), shape and density of the tori as well as the thinness of the buccal bone (Figs. 4 A and B). The potential treatment options were discussed with the patient. However, she declined treatment at this time because she was leaving the city and returning to her home country.



**Fig. 2.** CBCT of mandible – occlusal view.



**Fig. 3.** (A) CBCT slice showing impacted supernumerary tooth at the 45/46 zone.  
(B) Slice showing the impacted supernumerary tooth resorbing molar 46.



**Fig. 4.** (A) CBCT slice showing impacted supernumerary tooth at the 34 zone.  
(B) Slice showing the proximity of rotated supernumerary tooth to tooth 34 and how little buccal bone exists on tooth 34.

### 3. Discussion

The patient presented to the clinic for examination and debridement during a temporary period of residence in the city and indicated that she did not wish to pursue definitive treatment because of her anticipated departure. Nevertheless, comprehensive consideration was given to a potential treatment plan. Her presentation clearly indicated the need for a multidisciplinary approach involving periodontics, oral surgery, orthodontics, prosthodontics, and restorative disciplines. Clinical findings included a resorptive lesion associated with tooth 46 and its likely eventual loss, minimal buccal bone at tooth 35, anticipated osseous defects following extraction of supernumerary teeth, and the risk of further periodontal tissue loss with orthodontic tooth movement. Additionally, careful determination would be required regarding which teeth should be maintained and which sacrificed, along with the development of a functional occlusal scheme that may ultimately include implant-supported tooth replacement.

A significant anatomical finding in this case was torus mandibularis. Torus mandibularis is a benign, slow-growing bony outgrowth located along the lingual aspect of the mandible, most frequently in the premolar region [1], [7], [8]. The lesion is typically bilateral and symmetrical, though its size and morphology vary considerably among individuals. Its etiology is multifactorial. Genetic predisposition appears to play a major role, as supported by familial patterns of occurrence. Environmental influences, particularly mechanical stress on the mandible, are also implicated. Parafunctional habits such as bruxism may increase masticatory forces and stimulate osteogenic activity. Dietary factors, including frequent consumption of hard or fibrous foods, and systemic influences such as calcium or vitamin D metabolism have also been proposed, although current evidence remains inconclusive. Periodontal literature further reports a strong association between tori formation and sites that have undergone soft tissue grafting [9].

Although torus mandibularis is generally asymptomatic, it can present clinically significant challenges. Large tori may interfere with mandibular denture adaptation, complicate plaque control, or become traumatized during mastication, resulting in ulceration. In rare cases, they may restrict tongue movement or generate patient concern regarding possible malignancy. Therefore, patient education and reassurance form an essential component of management, particularly when no active treatment is indicated [1], [8].

The presence of supernumerary teeth further contributed to the complexity of this case. Supernumerary teeth represent an excess in the normal dental complement and may present singly or multiply, erupted or impacted, and in either dentition, although they are more common in the permanent dentition [10]-[12]. The etiology of hyperdontia remains incompletely understood. The most widely accepted theory involves hyperactivity of the dental lamina, while genetic influences, including autosomal dominant inheritance patterns, have also been implicated. Supernumerary teeth are more frequently observed in association with certain syndromes, including cleidocranial dysostosis and Gardner syndrome [13].

Supernumerary teeth are classified according to both morphology and position [14]. Morphologically, they may appear conical, supplemental, tuberculate, or odontoma-like. Positional classifications include mesiodens in the maxillary midline, paramolars, and distomolars. While they may remain asymptomatic, impacted or malpositioned supernumerary teeth can lead to delayed eruption of adjacent teeth, midline diastemas, crowding, rotations, and the development of dentigerous cysts [3], [15]. Accurate diagnosis relies on radiographic evaluation, typically panoramic imaging or cone-beam computed tomography (CBCT) for precise localization [16], [17].

Although torus mandibularis and supernumerary teeth arise from distinct developmental processes, their coexistence highlights the spectrum of craniofacial variation and underscores the importance of comprehensive assessment. The presence of one anomaly does not imply causation of the other; however, together they may increase surgical, orthodontic, and restorative complexity. For instance, prominent mandibular tori could complicate surgical access during extraction of impacted supernumerary teeth or influence orthodontic biomechanics and prosthodontic planning [2], [8].

Management decisions for both conditions are guided primarily by symptomatology and functional impact. In this patient's case, the broader context of periodontal compromise, restorative challenges, and potential orthodontic stabilization must be considered. Management of torus mandibularis is typically conservative. Observation is appropriate in asymptomatic cases, whereas surgical reduction or removal is reserved for situations in which the tori interfere with prosthesis fabrication, compromise oral hygiene, cause recurrent ulceration, or impede restorative or prosthodontic rehabilitation [18], or when they result in significant patient discomfort [19].

For supernumerary teeth, treatment depends on their effect on adjacent structures and occlusion [20], [21]. Monitoring may be appropriate for asymptomatic, non-obstructive teeth that do not interfere with eruption or alignment. Surgical extraction is recommended when supernumerary teeth contribute to eruption disturbances, orthodontic complications, or cyst formation [22]. Early diagnosis

through routine clinical examination and timely radiographic assessment remains critical in preventing complications and facilitating coordinated interdisciplinary treatment planning.

In summary, despite the patient's decision to defer active treatment due to her transitional residency, this case exemplifies the need for comprehensive evaluation and collaborative care. The interplay of periodontal health, structural integrity, anatomical variation, and occlusal stability necessitates a carefully sequenced, multidisciplinary strategy to optimize both function and long-term prognosis.

#### 4. Conclusion

Torus mandibularis and supernumerary teeth represent developmental variations with distinct etiologies yet shared relevance in clinical dentistry. While often asymptomatic, they may pose challenges in oral hygiene, orthodontics, and prosthodontics. Recognition of these conditions, their potential complications, and appropriate management strategies is vital for delivering high-quality dental care. This unusual case illustrates that a comprehensive, individualized approach is required to address both functional needs and patient concerns, ultimately promoting improved long-term oral health outcomes.

#### 5. Patient Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images.

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