



## ORIGINAL RESEARCH PAPER

## Oral Pathology

### NON-HEREDITARY HYPERDONTIA: A REPORT OF TWO UNUSUAL CASES

**KEY WORDS:** Hyperdontia, non-hereditary, ectopic

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#### ABSTRACT

Supernumerary also known as hyperdontia is the presence of one or more teeth in the dentition than the usual number. Their presence may be association with syndromic routinely or non-syndromic\_rarely. Their designation is based on the location in the arch and their morphology also varies. The management is based upon proper clinical intraoral examination and history.

#### Case Report 1: Ectopic eruption of supernumerary teeth (hyperdontia) in the maxillary anterior region

A 17 year old male patient came to the dental clinic with the chief complaint of proclined upper front teeth and want to get treated. On clinical examination the patient face is symmetry with proclined upper anterior with incompetent lips.

Intraoral examination reveals there are presence of two well-formed supernumerary teeth resembling premolars in maxilla in reference to 11 and 21 regions (fig 1) Further examination reveals there is an ectopic eruption of maxillary central incisor (11) and missing 21 resulting in crowding of maxillary anterior dentition. Crowding as well as lingually erupted mandibular anteriors were also evident. However, the posterior teeth are well aligned (fig 2 and 3) and are in class I molar relation. There is also presence of distomolar in 16 region.

Patient is advised take an orthopantomogram (OPG) radiograph as part of routine investigations as well as with the suspension of intraosseous supernumerary teeth presence before discussing the further treatment plan.

OPG reveals impacted 21 along with vertical impaction of 17, 18 and 28 along with evident of distomolar (18 region). Undergoing mesioangular impaction of 38 and 48 with developing roots were also seen (fig 4). There is no evident of intraosseous supernumerary teeth presence in the radiography.

The treatment plan is concerned with extraction of supernumerary teeth followed by fixed orthodontic therapy. Extraction of the supernumerary teeth was done under local anesthesia. Fixed orthodontic therapy was initiated as per the scheduled treatment plan.



**Fig 1:** Anterior view of the dentition with ectopic eruption of supernumerary teeth and missing 21 teeth



**Fig 2:** Posterior view (left side) normal occlusion with class I

molar relation



**Fig 3:** Posterior view (right side) normal occlusion with class I molar relation



**Fig 4:** OPG X-Ray

#### Case report 2: Unusual presence of multiple supernumerary teeth (non-hereditary)

A male patient age 24 year had came the dental clinic along with his parents on routine dental check-up and complaint of presence of extra teeth that causes him difficulty in maintaining good oral hygiene. The patient's chief complaint has been recorded. Further questions are been asked to the patient as well as his parents related to the hereditary presence or any disturbance that occurred during childbirth or childhood. No relevant history had been pinned and considered to be normal.

On examination intraoral shows of presence of multiple supernumerary teeth in both mandible (in premolars both right and left dental arches) \_fig 1 & 2 and in maxilla (distomolar on right and left dental arches) \_fig 3 with normal occlusion of class I molar relation except minor crowding in the mandibular anteriors. No other relevant findings were observed in relation to extraoral examination as well as physical attire.

Other intraoral findings include presence of mild calculus with generalized mild gingival enlargement and also evident of Class I dental caries in the maxillary and mandibular posterior teeth.

Patient is advised take an orthopantomogram (OPG)

radiograph with the suspension of intraosseous supernumerary teeth presence before discussing the further treatment plan.

OPG reveals normal aligned maxillary and mandibular dentition with evident of erupted supernumerary teeth. There is no evident of intraosseous supernumerary teeth presence in the radiography

The findings had been explained to the patient and advised to go for extraction of the supernumerary teeth, full mouth oral prophylaxis as well as restoration of caries teeth with dental composite as part of the treatment plan; However, patient is not willing for extraction and needed only for dental scaling and restoration (as per the patient's concern).

Full mouth oral prophylaxis and good oral hygiene maintenance instructions were given. Class I cavity preparation was done for the caries teeth and restored with dental composites.



**Fig 1:** Occlusal view of the Maxillary dentition with supernumerary tooth in first quadrant



**Fig 2:** Occlusal view of the Mandibular dentition with supernumerary tooth in third and fourth quadrant of premolar regions



**Fig 3:** Distomolars in right and left arches of maxillary dentition



**Fig 4:** OPG X-Ray

## DISCUSSION:

The term supernumerary denotes the phrase "extra". The supernumerary teeth are most probably results from continued proliferation of the permanent or primary dental lamina to form a tooth germ. Hyperdontia denotes the situation in which there is presence of one or more number of teeth erupted in the dentition than the usual count. The resultant tooth structure will be in normal morphology or abnormal (i.e. rudimentary or miniature). Most cases are isolated events, although there are reported cases that are familial and/or may be associated with genetic syndromes (example: gardner's syndrome and cleidocranial dysplasia).<sup>1</sup> Supernumerary teeth are commonly evident in permanent dentition than in primary dentition. The prevalence in the ratio of maxilla and mandible is 10:1 and there is no significant gender predilection.<sup>2</sup>

When a supernumerary tooth is seen in the anterior midline of maxilla (common site), the tooth is known as a **Mesiodens**. Presence of a fourth molar called a **Distomolar** in the maxillary molar region (second most common site). The mesiodens and the distomolar often exhibits normal or sometimes conical crowns. The supernumerary tooth that are located on the buccal or palatal aspect of maxillary molars are called as **Paramolar**.<sup>3</sup>

Supernumerary teeth may be single or multiple and erupted or impacted. If so, erupted, may cause malalignment and aesthetically compromised.<sup>1</sup>

Theories and conclusive that have been put forward in the literature to establishes the supernumerary tooth formation: It has been suggested that supernumerary teeth develop from a third tooth bud arising from the dental lamina near the permanent tooth bud, or possibly from splitting of the permanent bud itself. Another theory (well supported in the literature) is **the hyperactivity theory**, which suggests that supernumeraries are formed as a result of local, independent, conditioned hyperactivity of the dental lamina.<sup>4</sup>

Their aetiologies are not completely understood. The anomaly does not follow a simple mendelian pattern. Multiple supernumerary teeth are rare in individuals with no other associated diseases or syndromes.<sup>4</sup>

Radiographs plays a potential diagnostic tool in identification and location of supernumerary teeth; although they are advised as a part of routine investigations where there is an indication for missing tooth or teeth.<sup>5</sup>

The management depends on many factors, including their potential effect on the developing normal dentition, their position and number, and potential complications that may result from surgical intervention. If supernumerary teeth erupt, can cause malalignment of the normal dentition. Those that remain in the jaws may cause root resorption and their follicles develop into dentigerous cysts or interfere with the normal eruption sequence. All the preceding factors influence the decision to either remove a supernumerary tooth or keep it under observation.<sup>6</sup>

Indications for Supernumerary Removal (i) where tooth eruption has been delayed or inhibited, (ii) altered eruption or displacement is evident; (iii) there is associated pathology; (iv) active orthodontic alignment (v) the tooth is present in bone designated for implant placement; (vi) spontaneous eruption of the supernumerary has occurred.<sup>6</sup>

Indications for monitoring without removal (i) satisfactory eruption of related teeth has occurred; (ii) no active orthodontic treatment is envisaged; (iii) there is no associated pathology; (iv) removal would prejudice the vitality of the related teeth.<sup>6</sup>

## CONCLUSION:

Supernumerary teeth, while often asymptomatic, can lead to significant clinical challenges, including delayed eruption, impaction of permanent teeth, and aesthetic concerns. Early diagnosis, routine radiographic screening and interdisciplinary intervention are crucial to mitigate these issues. Surgical removal combined with orthodontic management can effectively address the complications associated with supernumerary teeth, leading to improved functional and aesthetic outcomes. Continued research and case studies are essential to enhance our understanding and treatment approaches for this dental anomaly.

## Declarations:

**Consent form:** The authors certify that all appropriate patient consent forms were obtained and efforts were made to conceal their identity.

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