

# NON-SYNDROMIC CONCOMITANT HYPOHYPERDONTIA IN A FAMILY — A RARE CASE REPORT

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## ABSTRACT

*The simultaneous occurrence of hypodontia and supernumerary teeth in the same individual is termed 'concomitant hypo-hyperdontia'. There appears to be a correlation between concomitant hypo-hyperdontia and some syndromes, but this anomaly is very rare in the general population. Its etiology is still obscure. Very few cases have been reported in the literature of this condition. Presented here is a rare case of simultaneous presence of supernumerary teeth (distodens / retromolar) and missing teeth in a family.*

**Keywords:** Concomitant, retromolar, distodens, supernumerary, hypodontia, hyperdontia, agenesis.

## INTRODUCTION

Human dental eruption is known to be a dynamic interaction between heredity and environment. It is widely assumed that the development of supernumerary teeth or congenitally missing teeth may involve a genetic factor and, hence, may show a familial tendency. Although anomalies of tooth number and form are quite common, but concomitant hypo-hyperdontia has rarely been reported in literature. Concomitant hypohyperdontia is the conveniently concise term introduced by Camilleri<sup>1</sup> to describe the simultaneous presence of hypodontia and supernumerary teeth. Aetiology is obscure and as asserted by Baccetti,<sup>2</sup> the two occurrences are probably unrelated phenomena. Missing maxillary second molar along with occurrence of distodens (retromolar) present distal to first molar is even a rare condition and has never been reported in literature to the best of our (author's) knowledge.

Supernumerary or hyperdontia are the teeth that exceed the normal dental formula independent of their location and form.<sup>3</sup>

Hypodontia is the term used most commonly in describing the phenomenon of congenitally missing teeth. Hypodontia has been classified as isolated or nonsyndromic and syndromic hypodontia.<sup>4</sup>

## CASE REPORT

A 46 year old female patient and her 17 year old daughter reported to the Department of Oral diagnosis of Dr HSJ Institute of Dental Sciences, Chandigarh with the chief complaints of bleeding from the gums and irregular alignment of the teeth. Their medical history showed no significant findings. A detailed clinical examination was performed and panoramic radiographs were advised to both of them to see the status of the bone as well as that of the teeth. On intraoral examination of the patients, it was found that the 46 year old female patient had missing second maxillary molars and the presence of a supernumerary tooth distal to left maxillary first molar (Fig 1), while her daughter showed the presence of a distodens distal to right maxillary first molar and missing right second maxillary molar (Fig 2). She also informed that her left

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upper maxillary first molar was extracted because of caries. Orthopantomograph in the elderly female confirmed the absence of maxillary second molars and congenital absence of maxillary third molars as well, and a supernumerary tooth (Distodens) present distal to maxillary left molar with single conical root (Fig 1) and Orthopantomograph of the young female patient confirmed our clinical findings for that particular case (Fig 2).

Treatment plan of the elderly female included the prophylaxis of the teeth followed by Oral Hygiene Instructions and regular follow up, while for her daughter orthodontic treatment was planned and the distodent was extracted under local anaesthesia.

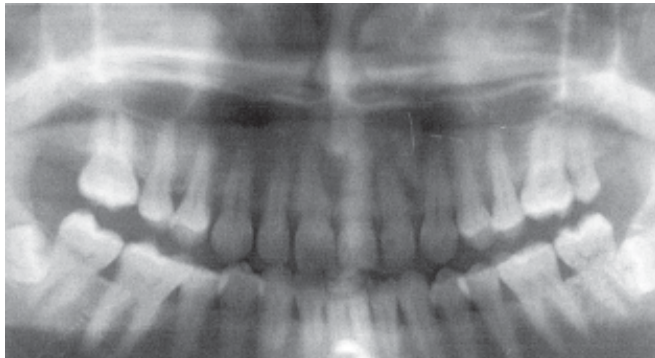


Fig 1: Maxillary arch showing congenitally missing second molars and distodens present distal to left first molar.

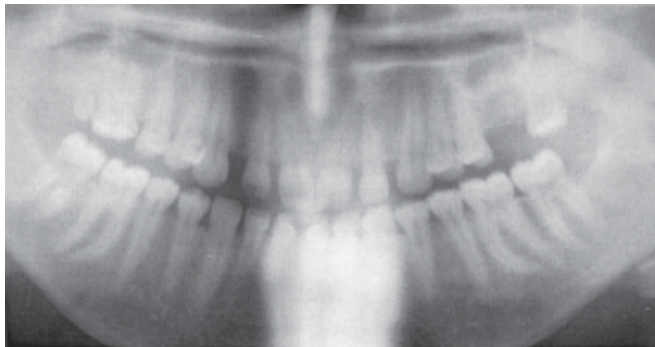


Fig 2: An orthopantomograph showing congenitally missing second left molar and rudimentary super-numerary (distodens/retromolar) present distal to the right first molar.

## DISCUSSION

Presented here is a case of concomitant hypohyperdontia in a family where a 46 year old female had

missing upper second molars and a rudimentary retromolar present distal to the left maxillary first molar and her 17 year old daughter had missing right maxillary second molar and a rudimentary retromolar present distal to right maxillary first molar. Rarity of such an occurrence prompted the authors to report this case.

Agenesis or hypodontia of one or more teeth is one of the most common of human developmental anomalies. In a Finnish study 15% of missing teeth were lower second premolars, 29% of upper second premolars, 19% of upper lateral incisors, 11% of lower first premolars, 3% of lower central incisor, 1% of lower lateral incisor. Hypodontia of second molars and canine were rare (0.7% of missing teeth). Furthermore, 71% of individuals with hypodontia of some other teeth also lacked third molars.<sup>4</sup> Polygenesis, the formation of one or more supernumerary teeth occurs much less frequently than agenesis. For humans, the most frequent site for these occurrence are the maxillary central and lateral incisor regions. Tooth agenesis occurs more frequently amongst a few specific teeth and clinically this is often considered a normal variant. Familial tooth agenesis is transmitted as an autosomal dominant, recessive, or X-linked condition. Affected members within a family often exhibit significant variability with regard to the location, symmetry and number of teeth involved.

The etiology of supernumerary teeth is not completely understood. A hypothesis, well supported in the literature, is the hyperactivity theory, which suggests that supernumeraries are formed as result of local, independent, conditioned hyperactivity of the dental lamina.<sup>5</sup>

Supernumerary teeth are most frequently seen in maxillary anterior and molars regions. A number of different types of supernumerary tooth exist which are classified according to their morphological features. Rudimentary supernumeraries are described as being either conical or tuberculate in shape, the conical form being the most common. Supplemental supernumeraries resemble the normal series, but are usually smaller. The supernumerary teeth that occur between or just posterior to the central incisors are referred to as mesiodens; those in molar area are called paramolar teeth; and more specifically, those that erupt distally to the third molar are distomolar teeth.<sup>6</sup> The prevalence

of supernumerary teeth oscillates 0.5-3.8% in permanent teeth in comparison with 0.3-0.6% in primary teeth. Mesiodens are the supernumerary teeth that occur most frequently with the prevalence of 0.15 to 1.9%, the next most common types are paramolars (0.08-0.15%) and distomolars (0.13-0.6%).<sup>3</sup>

Very few cases of co-existent Hypo-hyperdontia have been reported in literature. Munns Nathanail and Mercer each reported a case of missing upper lateral incisors associated with supernumerary premolars,<sup>7</sup> Matsumoto, Nakagawa, Sobue, Ooshima reported a case of missing maxillary second premolar with simultaneous presence of supernumerary in the same jaw.<sup>8</sup> Sharma A reported a non syndromic case of concomitant multiple supernumerary teeth in both maxillary and mandibular arches and missing maxillary permanent left canine in a 12 year old girl.<sup>9</sup>

In the present case the most striking feature was the absence of right maxillary second molar and all the four third molars along with the presence of rudimentary supernumerary tooth (distodens) present distal to maxillary right first molar without any association with any syndrome with almost similar intraoral condition present in the mother. To the author's combined knowledge no such case has been reported describing

concomitant hypo-hyperdontia involving maxillary second molar.

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