

Non Syndromatic Bilateral Mandibular Lateral Incisors Agensis: A Rare Case Report

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Abstract: *Hypodontia can range from the absence of a single tooth to multiple missing teeth. The prevalence of missing mandibular incisor is relatively rare compared to other missing teeth. However, the prevalence rates might differ based on factors like geographic location, ethnicity and the genetic predisposition, its estimated to occur in very small percentage of the population, often below 1%. This condition can lead to problems with chewing, speech and alignment of the remaining teeth. In this case, report we present a unique clinical case of bilateral mandibular lateral incisor agenesis in a 24-year-old male patient, through a comprehensive assessment of the patient's dental and medical history, radiographic and clinical examination. We aim to shed light on challenges posed by this condition.*

Keywords: Hypodontia, Agensis, Bilateral, Mandibular, Incisor

1. Introduction

Different terms are used to explain the absence of teeth including hypodontia, oligodontia and anodontia.¹

Tooth agenesis happen when there is absence of one or more of the normal dentition.²

No history of extraction, no radiographic evidence of a tooth impaction, then it is considered as a congenital missing tooth.³

The most commonly missing teeth are third molar, mandibular second premolar, maxillary lateral incisor, maxillary second premolar and the least is mandibular incisor.⁴

There is no precise causing factors for missing teeth, the most likely factors are hereditary, environmental and evolution.⁵

Cleft lip and palate, down syndrome, ectodermal dysplasia, Ehler-Danlos syndrome, Pierre Robin syndrome and mutation to Genes: MSX1, PAX9, AXIN2, EDA, SPRY2, SPRY4 and WNT10A are considered examples of hereditary factors.⁶

Environmentally congenital missing teeth can be caused by disturbances during the initial stages of tooth development, such as trauma, localized inflammation or infectious diseases and systemic problems as rickets or syphilis.⁷

Furthermore, it has also been suggested that there is a reduction in tooth numbers in human being evolution, the small jaw of modern man is said to be unable to accommodate the original complement of teeth.⁸

Despite the low prevalence rate of agenesis of bilateral mandibular lateral incisor, it may cause a significant

functional, esthetic and self-confidence issues for the affected patient, and it may need a comprehensive treatment plan in different specialty in dentistry.⁷

2. Case Report

A 24 years old male patient was referred to the department of periodontology at Queen Alia Military Hospital in the Royal Jordanian Medical Services, with chief complaint of mandibular anterior dental spacing. A family history of hereditary tendencies to congenital missing teeth was positive. His older sister also had missing teeth with different set.

Patient denied any history of medical problems, syndromes or any surgical procedures. No parafunctional habits was observed or mentioned and no history of trauma.

Patient is under orthodontic treatment, and he had obvious stuttering during speech.

Extraoral examination showed symmetrical face, a straight profile, average lower facial height and potentially competent lips (Fig 1)

Intraoral examination showed that a patient had fair oral hygiene with class 1 incisor relation, 4mm overjet, 60% overbite with lower midline shift 2mm to the right, class 1 canine and molar relation (Fig 2)

Microdontia bilaterally was noticed in all his maxillary teeth except the first molar, also microdontia in his mandibular canines, first premolars, second premolars and bilateral missing mandibular lateral incisor.

A panoramic x-ray was taken during examination. The radiograph revealed bilateral absence of the mandibular lateral incisors (Fig 3)

A definitive diagnosis of agenesis of bilateral mandibular lateral incisors was confirmed after radiographic

examination. Stabilization of oral hygiene, and regular follow up will be maintained in our periodontal dental clinic. Orthodontic treatment will continue until opening space of missing mandibular lateral incisors and facilitate future dental implant placement by our prosthodontic team.



Figure 1: The extraoral photographs



Figure 2: Intraoral photographs showing mandibular anterior dental spacing

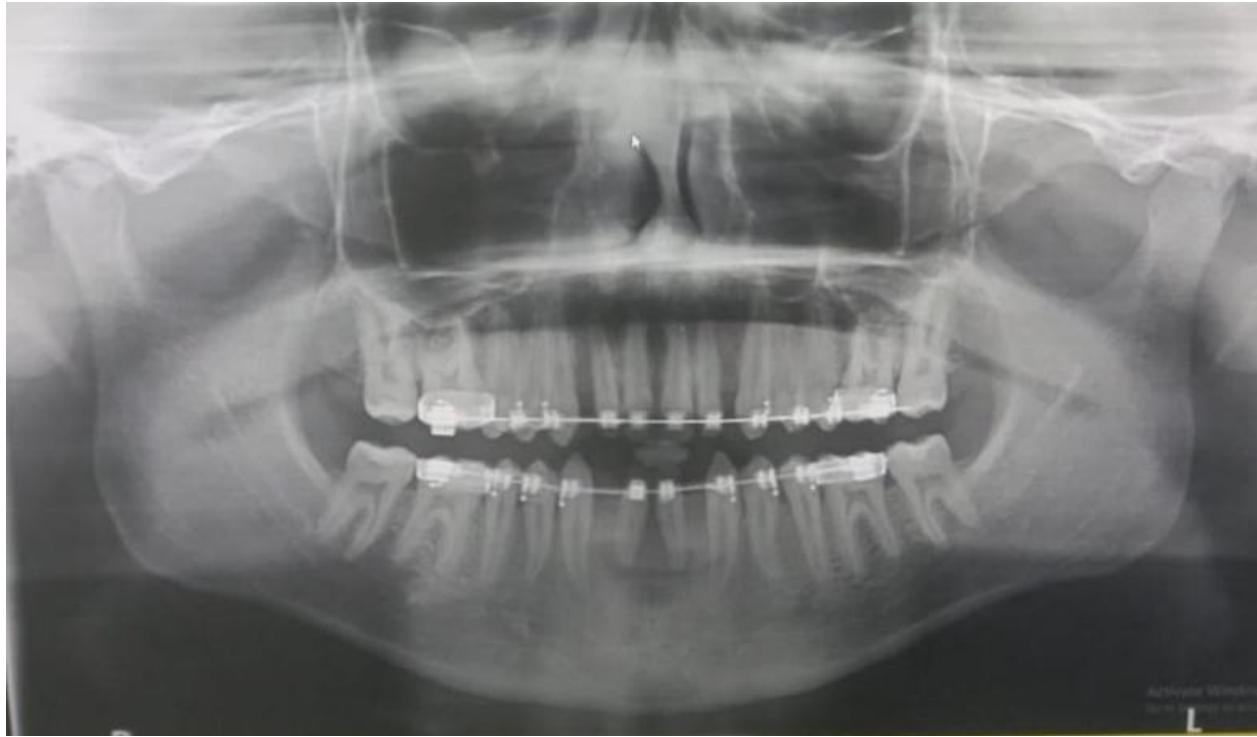


Figure 3: The panoramic radiograph.

3. Discussion

Hypodontia of bilateral mandibular lateral incisor is uncommon developmental anomaly, with unknown exact specific causes⁴

It may occur in association with some other condition such as Ectodermal dysplasia, Down syndrome and cleft lip and palate.⁹

Hypodontia patient may also has microdontia or peg-shaped teeth, it also can cause inadequate bone growth and gingival problems.^{10, 11}

The first evidence of calcification of incisors is between 3-4 months, crown of permanent incisor completed between 4-5 years old, the eruption starts between 6-8 years old.¹²

In this case, according to clinical and radiographic examination patient has missing bilateral mandibular lateral incisors with generalized microdontia.

Addressing missing mandibular lateral incisor teeth, involves a cooperation of orthodontic and prosthodontic approaches with focus of both functional and aesthetic restorations.

Our patient is under the care of the orthodontic team in Queen Alia Military Hospital with a treatment plan of opening space of the missing mandibular lateral incisors to be replaced by dental implant with collaboration with our prosthodontic team.

4. Conclusion

Hypodontia is an anomaly that cause psychological stress and great challenge for both patient and his family, together with dental practitioner as it needs a well compliance and long term follow up in multiple dental disciplines. It is also require

a well collaborative orthodontic and prosthodontic treatment plane.

This is a rare case of bilateral mandibular lateral incisors agenesis wherein enhancement of satisfaction and positive self-image through restoration of esthetic, speech, mastication and occlusal balance are our primary target.

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