Congenitally Missing Lateral Incisor in Primary Dentition - A Report of Two Cases

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ABSTRACT

Primary teeth which are congenitally missing are rarely seen and when found should be thoroughly investigated and treated. In most cases, when primary teeth are missing, the permanent successors are also found to be missing. Various literature have recently demonstrated the possibility of missing primary teeth without missing permanent teeth. The most commonly missing teeth in the primary dentition is the lateral incisor. Here is a report of two cases with missing primary lateral incisor.

KEYWORDS: Hypodontia, Primary Teeth, Lateral Incisor

INTRODUCTION

The most common anomaly seen to affect almost 20% of the population is Hypodontia. An occurence rate of 0.5% or less has been reported for agenesis by various studies hence found to be a rare anomaly in the primary dentition.[1,2] It is seen that maxillary lateral incisors were more commonly found missing than mandibular lateral incisors.[3]

It is a common concept that if the primary tooth is missing, its permanent tooth will also be missing.[4,5,6,7] Very few studies have reported the rare possibility of permanent teeth existing in children where primary predecessors are missing.[4]

The casual factors underlying the lack of formation of certain teeth have still not been precisely described.[8] Butler's field theory explains the pattern of agenesis that key tooth is most mesial in each class.[9] The most common factors reported are hereditary, environmental factors and evolution.[10,11]

Along with genetic factors, the congenital absence of teeth may result from disturbances during the initial stages of tooth development, such as ectodermal dysplasia, trauma, infectious diseases and severe intrauterine disturbances and systemic problems such as rickets or syphilis.[11]

CASE REPORT

Case Report 1: In June 2016, a 3-year-old child was reported to the department for routine dental examination with no previous dental experience. His medical history was non contributory. There was no history of supernumerary teeth or congenitally missing teeth in his family.

***Intraoral Examination*:** Teeth present were central incisors, lateral incisors, canines, first molars and second molars.

Intraoral examination revealed clinically missing maxillary right lateral incisor. No other abnormalities were seen. (Fig 1)

Fig 1: Missing primary maxillary right lateral incisor

Radiographic evaluation: An intraoral periapical radiograph was taken as the child did not cooperate for an orthopantomograph.

Fig 2: IOPAR showing missing primary maxillary right lateral incisor

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IOPAR revealed the absence of the right lateral incisor although it could not be confirmed from the IOPAR whether the permanent right maxillary lateral incisor is present or not. (Fig 2) An orthopantomograph is required to confirm the presence of the permanent counterpart.

Case Report 2: In July 2016, a 3-year-old reported to the department complaining of food lodgement in the lower right and left back tooth region. The child had no previous history of dental experience, and his medical history was nonsignificant.

Intraoral examination: Intraoral examination revealed dentinal caries in right and left mandibular first molars (Fig 3), and both maxillary lateral incisors were clinically missing. (fig 4 and 5)

Fig 3: Shows caries in mandibular right and left first molar

Fig 4: Missing maxillary right and left lateral incisor

Fig 4: Missing maxillary right and left lateral incisor

Radiographic evaluation: An intraoral periapical radiograph was advised in relation to maxillary right and left lateral incisors. (Fig 6)

Fig 6: IOPAR revealed missing maxillary right and left primary lateral incisor along with its permanent counterpart

IOPAR revealed missing primary lateral incisors along with missing permanent lateral incisors as well.

DISCUSSION

Studies have reported the incidence of hypodontia in the primary dentition ranges from 0.5% among the Swedish children to 1.0% among the Caucasians. However, a higher incidence of 5.0% has been reported in the primary dentition of Japanese children.[12] The maxillary lateral incisor was the most frequently missing primary tooth, followed by the maxillary central incisor and first primary molar. Both genetic and environmental factors play a role in the failure of tooth development. Environmental causes most commonly are due to the failure of tooth bud cell proliferation from the dental lamina which may be due to an infection (e.g. rubella, osteomyelitis), drugs (e.g. thalidomide),trauma, chemotherapy at a younger age.[13] According to Kjaer et al , disturbances in nerve tissue, oral mucosa and supporting tissues was related to the pathogenesis of mandibular tooth agenesis; all of which interact during odontogenesis.[14] Mutation of MSX1 and PAX9 genes are associated with genetic causes. Several independent defective genes probably are the causative factors for tooth agenesis, acting alone or in combination with others, which eventually lead to specific phenotypes.

Hypodontia is also often seen in syndromes associated with lip/alveolus with or without cleft palate.[15,16]

A thorough clinical examination along with panoramic radiography should be used in detecting or confirming dental development.

CONCLUSION

In every case of missing primary teeth, we should carefully examine the child, clinically and radiologically. Hypodontia most commonly results in spacing of

dentition and possible dysfunction of occlusion, which usually corthodontic or prosthodontic intervention to correct the defect and to improve function and aesthetics. Simultaneously, the parents should be made aware of this condition and various modalities of treatment.

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