Microdontia Involving Mandibular Lateral Incisor: A Rare Case Report

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I. INTRODUCTION

Microdontia is a condition where the teeth are smaller than the normal size, which may involve all the teeth or be limited to a single tooth or a group of teeth.1 Localized involvement of mandibular lateral incisor is rare. Hence, this article tends to describe a rare finding of microdont mandibular lateral incisor in a 9-year-old Indian female making this case report educationally and clinically important.

II. CASE REPORT

A 9 year old female patient reported to the department of Oral Medicine and Radiology, Bapuji Dental College and Radiology, Davangere, Karnataka with a chief complaint of pain in the left lower back tooth region since 4 days. History revealed that the pain was severe in intensity, throbbing type, aggravated on taking food. Her past dental, medical, family and personal history were non-contributory. On examination, the patient’s face looked symmetrical with convex facial profile and no temporo-mandibular joint abnormality. (Fig. 1). Intraorally, patient had mixed dentition with Class II caries in 54, 64, 74 and 84. 74 and 84 were tender on percussion. Also conspicuous was the microdont permanent mandibular left lateral incisor. On careful examination of the mandibular arch, a small sized tooth was noted (Fig. 2). On revisiting the past patient’s mother revealed that they were of normal history about the deciduous mandibular incisors, morphology and were not subjected to any trauma. IOPA was advised w.r.t 74, 42 and 84. IOPA w.r.t 42 revealed reduced mesiodistal dimensions of 42 as compared to the adjacent tooth (Fig. 3). Hence, a diagnosis of Acute irreversible pulpitis w.r.t 74 & 84. Patient was subjected to further evaluation after treatment of 74 and 84.

Fig. 1: Facial Profile

Fig. 2: Unilateral Microdont 42
Maxillary and mandibular casts were poured and measurement of mandibular lateral incisors was done for both right and left side with Vernier callipers which revealed the mesio-distal dimension of 32 to be 6mm and 42 to be 4.5mm, cervico-incisal dimension of 32 to be 7mm and 42 to be 5mm and buccolingual dimensions of 32 to be 6mm and 42 to be 4.5mm which confirmed the presence of small tooth (Fig. 4). Patient was kept under follow-up.

III. DISCUSSION

The term “Microdontia” is used to describe teeth which are smaller than normal, i.e. outside the usual limits of variation. Three types of microdontia are recognized: (1) true generalized microdentia, (2) relative generalized microdentia, and (3) microdentia involving a single tooth. (2) Bargale et al., (2011) classified microdentia of a single tooth as: (1) microdentia of the whole tooth, (2) microdentia of the crown of the tooth, and (3) microdentia of the root alone.3 Microdentia involving only a single tooth is a rather common condition. It affects most often the maxillary lateral incisor followed by the third molar. One of the common forms of localized microdentia is that which affects the maxillary lateral incisor, a condition that has been called the ‘peg lateral’. (2) The prevalence of microdentia varies between 0.8 to 8.4% (Neville et al, 2005) 4. Four different studies conducted on Indian population showed a prevalence rate of 0.16%, 1%, 2.58% and 4.3% with maxillary laterals incisors (peg laterals) most frequently affected (Sharma & Singh 2014). 5 Occurrence of peg-shaped incisors in the mandibular arch is a rare finding. The prevalence of peg shaped lateral in the maxilla to be 7.5% in Asians and 1.6% in non-Asians. The prevalence of peg shaped mandibular incisor, unilateral has been reported to be 1% of the population (Rajab LD & Hamdan MA, 2002). 6 The occurrence being common in girls when compared to boys. 7 English literature showed only six reported cases of peg shaped microdentia in the mandibular arch, including Sharma A. (2001)8; Ramachandra S. S. et al. (2009)9; Anziani H. et al. (2010) 10; Chanchala H. P. and Nandlal B. (2012) 7; Malleshi S. et al. (2014) 11; Sharma S. and Singh S. (2014) 5 and Rathore R. et al. (2015) 12; all of which reported peg-shaped microdentia affecting mandibular central incisors. But none has reported microdentia involving mandibular lateral incisor like the present case report according to our English literature search.

Strong association has been suggested between hypodontia and microdentia. The etiology of such dental developmental anomalies is obscure. While racial difference in prevalence suggests that genetic factors may be a more probable reason to the congenital absence of teeth, variable etiology exists including hereditary, environmental or endocrine disturbances.13 There are several genes implicated in tooth agenesis, but mutations occurring in MSX1, PAX9, AXIN2, and EDA are shown to be involved in non-syndromic human tooth agenesis.13,14

The syndromes associated with microdentia are Gorlin-Chaudhry - Moss syndrome, Williams’s syndrome, Ullrich-Turner syndrome, Chromosome 13 syndrome, Rothmund-Thomson syndrome, Hallermann-Streiff, Orofaciodigital syndrome (type 3), Oculo-mandibulo - facial syndrome, Tricho-Rhino-Phalangeal and type1 Branchiooculo-facial syndrome. 15

Treatment approach has to be case specific and depends on the condition of primary predecessor, number of missing teeth, status of occlusion / occlusal condition and patient/ parent’s preferences.12
IV. CONCLUSION

Microdontia weather generalized or localized can cause dental disharmony in the form of discrepancy between arch and tooth size, midline shift and further causing functional and aesthetic alterations. Since dental esthetics is known to affect the overall quality of life, it is important that a multidisciplinary approach is adopted in the treatment of patients with such type of tooth deformity. Hence, early diagnosis and appropriate management of these dental anomalies is indispensable.

REFERENCES Références Referencias

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