CASE REPORT

Supplemental tooth in primary dentition

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SUMMARY

An extra tooth causing numerical excess in dentition is described as supernumerary tooth, and the resultant condition is termed as hyperdontia. Hyperdontia is more commonly seen in the permanent dentition than primary one. Supernumerary tooth which resembles tooth shape and supplements for occlusion is called as supplemental tooth. We present a case with supplemental tooth in primary dentition.

BACKGROUND

The prevalence of hyperdontia in the primary dentition is found to be 0.3–0.8%.¹ In cleft lip and palate cases, prevalence of supernumerary teeth is approximately 28%.² This case is of a 5-year-old boy with non-syndromic unilateral cleft lip and supplemental tooth in primary dentition.

CASE PRESENTATION

A 5-year-old boy reported to the outpatient department with cleft upper lip since birth. He had not undergone any surgery for the repair of cleft lip. There was no consanguinity in the parents, and he has two unaffected siblings. The family history was negative for orofacial clefts, and other congenital anomalies. Extra oral examination revealed depressed columella and unilateral left-sided cleft of the upper lip (figure 1) involving the labial mucosa (figure 2A). Intraoral examination revealed an extra tooth placed in between the left maxillary central and the lateral incisor (figure 2B). Intraoral periapical radiograph of left maxillary anterior region revealed the presence of supplemental tooth located between the primary central and the lateral incisor (figure 3).

INVESTIGATIONS

Radiography

DIFFERENTIAL DIAGNOSIS

- Characteristic appearance
- May be confused with retained primary teeth (show root resorption) or supernumerary tooth (lacks resemblance to tooth structure and does not supplement for occlusion).

TREATMENT

Referred to the department of oral and maxillo-facial surgery for repair of cleft lip.

OUTCOME AND FOLLOW-UP

In our case, supplemental tooth was an incidental radiographic finding, causing no discomfort to the patient. Thus, the patient was kept on follow-up for 6 months.

Figure 1 Facial profile showing depressed columella (black arrow) and cleft of left side of the upper lip.

DISCUSSION

Cleft lip is the congenital failure of the maxillary and median nasal processes to fuse, forming a groove or fissure in the lip. Cleft lip can vary from a small notch in the vermilion border to a complete separation involving skin, muscle, mucosa, tooth and bone. Clefts may be unilateral (more often on the left side) or bilateral and can involve the alveolar ridge. Clefts of the lip and palate can occur individually, together or in conjunction with other defects. Various hypothesis have been proposed to explain the aetiology like increased maternal age,³ vasoactive drugs such as pseudoephedrine, aspirin, amphetamine,⁴ anticonvulsants like phenobarbital, valproate, dilantin.⁵ But larger studies failed to find a link between increased maternal age and increased risk of orofacial clefting.⁶ Increased uptake of multivitamin and folic acid by pregnant women has resulted in significant reduction of orofacial cleft.^{4,7} Apart from lip deformities, cleft lip is also associated with the presence of supplemental teeth. The prevalence of supplemental tooth in cleft lip cases is around 28%.² Our patient too presented with cleft lip and supplemental tooth.

Hyperdontia can be divided under various heads using different criteria.⁸ On the basis of shape, hyperdontia can be either accessory or supplemental. Accessory or supernumerary tooth are smaller in size as compared to normal teeth while

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Figure 2 (A) Clinical photograph of lower face showing unilateral cleft of the upper lip on the left side (B) Intraoral view showing supplemental tooth present in between left maxillary central and lateral incisor.

supplemental tooth resemble tooth shape and supplement for occlusion (as seen in our patient). Based on the location, it can be either mesiodens, peridens, paramolar or distomolar. Hyperdontia may involve either single or multiple teeth. In case of multiple teeth involvement, it can be associated with syndromes such as cleidocranial dysplasia, Gardner syndrome, orodigitofacial dysostosis, Down's syndrome, Crouzon syndrome and Hallermann Streiff syndrome.⁹ But in our case no such dysmorphic abnormalities were seen.

In order to explain the aetiology of accessory teeth, two theories have been proposed. The dichotomy theory states that the tooth bud splits into two parts which may either be equal or different sized. It further states that splitting of the tooth bud may also result in one normal and another dysmorphic tooth, respectively.

The other theory states that supernumerary teeth are formed as a result of local, independent, conditioned hyperactivity of dental lamina.

If supernumerary teeth cause discomfort to the patient in the form of compromised aesthetics or malocclusion, then they should be extracted followed by orthodontic treatment.

Learning points

- ▶ Supplemental tooth is the one that resembles tooth shape and supplements for occlusion.
- ▶ Hyperdontia involving multiple teeth may be seen in association with syndromes such as cleidocranial dysplasia, Gardner syndrome, orodigitofacial dysostosis, Down's syndrome, Crouzon syndrome and Hallermann Streiff syndrome.

Competing interests None.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

REFERENCES

- 1 Rajab LD, Hamdan MA. Supernumerary teeth: review of the literature and a survey of 152 cases. *Int J Paediatr Dent* 2002;12:244–54.
- 2 Fernandez-Montenegro P, Valmaseda Castellón E, Berini Aytés L, et al. Retrospective study of 145 supernumerary teeth. *Med Oral Patol Oral Cir Bucal* 2006;11:E339–44.
- 3 Shaw GM, Wasserman CR, O'Malley CD. Maternal pesticide exposures as risk factors for orofacial clefts and neural tube defects. *Am J Epidemiol* 1995;141:S3.
- 4 Abramowicz S, Cooper ME, Bardi K, et al. Demographic and prenatal factors of patients with cleft lip and cleft palate. A pilot study. *J Am Dent Assoc* 2003;134:1371–6.
- 5 Beaty TH, Maestri NE, Hetmanski JB, et al. Testing for interaction between maternal smoking and TGFA genotype among oral cleft cases born in Maryland 1992–1996. *Cleft Palate Craniofac J* 1997;34:447–54.
- 6 Meyer KA, Werler MM, Hayes C, et al. Low maternal alcohol consumption during pregnancy and oral clefts in offspring: the Slone Birth Defects Study. *Birth Defects Res A Clin Mol Teratol* 2003;67:509–14.
- 7 Sudhakara Reddy R, Ramesh T, Vijayalaxmi N, et al. Van der Woude syndrome—a syndromic form of orofacial clefting. *J Clin Exp Dent* 2012;4:e125–8.
- 8 Shafer WG, Hine MK, Levy BM. *A textbook of oral pathology*. 4th edn. Philadelphia: WB Saunders, 1993:49.
- 9 Taylor GS. Characteristics of supernumerary teeth in primary and permanent dentition. *Dent Pract Dent Rec* 1972;22:203–8.

Figure 3 Intraoral periapical radiograph showing supplemental tooth present in between primary left maxillary central and lateral incisor.

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