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# Fused primary incisors with succedaneous supernumerary in the area of a cleft lip: case report

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## Introduction

The occurrence of dental abnormalities affecting both the primary and permanent dentition in children with oral clefts has been well documented.<sup>1-5</sup> These abnormalities can be in the number, morphology, or eruption pattern of the teeth and are more frequent in children with clefts than in children without clefts.<sup>1</sup> Specifically, both supernumerary and fused teeth have been shown to occur with greater frequency in children with clefts.<sup>2,3</sup> The occurrence of supernumerary succedaneous teeth associated with fused primary teeth in children with cleft lip has not been reported.

## Literature Review

Fusion of primary teeth has been reported to occur in less than 1% of the general population.<sup>6,7</sup> It can occur between adjacent teeth of the normal complement<sup>8,9</sup> or between a tooth and an adjacent supernumerary.<sup>10,11</sup> Approximately 50% of fused or geminated primary teeth result in abnormal succedaneous teeth.<sup>6</sup> Abnormal succedaneous teeth also have been shown to occur in approximately 50% of cases where supernumerary teeth are located in the position of the primary maxillary lateral incisor.<sup>12</sup>

Children with clefts show a higher incidence of supernumerary lateral incisors when the cleft occurs as a cleft lip. These supernumerary lateral incisors occur more frequently in the primary than in the permanent dentition.<sup>4</sup> Although it has been demonstrated that fused and supernumerary primary teeth are correlated with a high incidence of abnormal succedaneous teeth in persons without clefts, one study of cleft patients showed no correlation between abnormalities of the primary teeth and subsequent abnormalities in the permanent dentition.<sup>5</sup>

This case is presented to illustrate the occurrence of a primary incisor fused with a primary supernumerary tooth which had a concomitant succedaneous supernumerary tooth in a patient with a cleft lip.

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## Case Report

A 6-year, 11-month Caucasian male was brought to the pediatric dentistry residency program by his mother who stated that he had a "double tooth." The patient's mother was concerned about the effect the "double tooth" might have upon the child's permanent teeth. The child was asymptomatic upon presentation and the mother reported no past dental complaints.

The patient's past medical history revealed three prior hospital admissions, two for surgical repair of an isolated cleft lip and one for a myringotomy and insertion of tympanostomy tubes. The patient had a mild lactose intolerance and a past functional heart murmur which was no longer detectable. At the time of examination and treatment the child was not taking any medications.

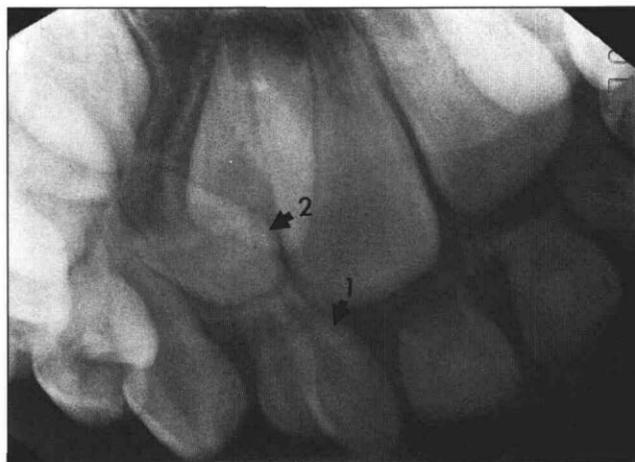
Clinical examination revealed a child with height and weight normal for his age and no physical abnormalities other than an isolated right cleft of the lip which had been revised surgically two years prior with an esthetically unsatisfactory result. Intraoral examination revealed an early mixed dentition with the mandibular central incisors being the only erupted permanent teeth. No dental caries was evident, but a bifid crown of the maxillary right primary lateral incisor was observed with slight localized marginal gingivitis in the area of the bifid crown (Fig 1, page 398). Both maxillary primary central incisors were mobile.

The radiographic examination of the patient included bite-wing and maxillary and mandibular occlusal radiographs. No dental caries or other abnormalities were noted on the bite-wing or mandibular radiographs. The maxillary occlusal radiograph revealed the presence of two complete root canal systems associated with the bifid maxillary right lateral incisor, consistent with a diagnosis of fusion of a primary maxillary right lateral incisor to a supernumerary primary tooth (Fig 2, page 398). Also present was a supernumerary permanent successor to the supernumerary primary tooth. Normal root resorption was evident on the remaining maxillary primary incisors. A panoramic radiograph then was exposed to rule out any other anomalies. Removal of the supernumerary permanent tooth was indicated to prevent impedance of the eruption of the permanent lateral incisor.

The fused primary lateral incisor and supernumerary were removed under general anesthesia in conjunc-



**Fig 1.** The fused primary lateral incisor and supernumerary primary tooth (arrow) at examination.



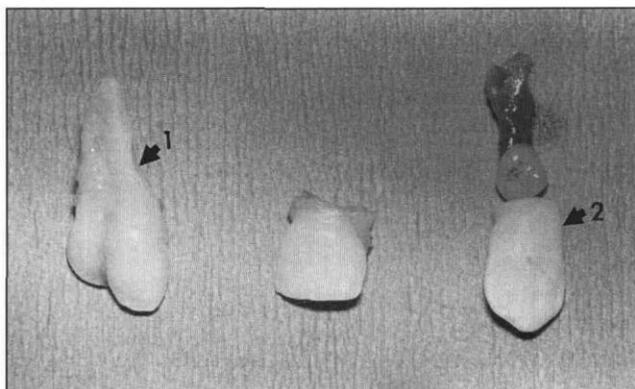
**Fig 2.** Radiograph showing the fused primary teeth (arrow 1) and the unerupted supernumerary succedaneous tooth (arrow 2).

tion with plastic surgery as were the exfoliating primary central incisors. The primary maxillary left lateral, which also exhibited normal root resorption, was removed to maintain symmetry. A palatal mucogingival flap was elevated and the supernumerary permanent tooth was removed. A palatal stent was not required. Postsurgical examination of the extracted teeth (Fig 3) confirmed the diagnosis of fusion of the primary right lateral incisor with a supernumerary primary tooth and a concomitant supernumerary succedaneous tooth. The child showed normal eruption of the maxillary permanent central incisors on recall at three months.

## Discussion

Fusion has been defined as a condition in which a tooth with a bifid crown has two distinct root canals as the result of a union of two adjacent tooth germs. The anomalous crown may represent fusion between two normal teeth, if when counting the bifid crown as one tooth, it appears that one tooth is missing.<sup>13</sup> Fusion also can occur between a normal tooth and a supernumerary. If when counting the bifid crown as one tooth, the normal number are present<sup>14</sup> or, if when counting the bifid crown as two teeth, one more than the normal number is present.<sup>15</sup> Factors which have been implicated as possible etiologies for fused teeth include thalidomide, hypervitaminosis, pressure from physical contact of young tooth buds, and genetic factors.<sup>6, 16-18</sup> A genetic etiology also has been suggested for the development of supernumerary teeth, as have etiologies such as cleft palate, localized disturbances in odontogenesis, and extensions of, or epithelial remnants from, the dental lamina.<sup>19, 20</sup>

In this case report, fusion occurred between a primary lateral incisor and a supernumerary primary inci-



**Fig 3.** The extracted fused primary teeth (arrow 1), the adjacent primary tooth which was ready to exfoliate, and the supernumerary succedaneous tooth (arrow 2). The associated soft tissue was pulp tissue from within the crown of the supernumerary succedaneous tooth.

sor in the area of a cleft lip. A succedaneous supernumerary incisor also was present. The presence of the supernumerary teeth in the area of the cleft lip suggests the possibility of either the same etiology for the cleft lip and the development of the supernumerary teeth, an explanation favored by Ranta,<sup>1</sup> or the possibility that the clefting process itself served as the etiology of the abnormal dental occurrences.

Management of fused primary teeth includes observation and allowance of normal exfoliation when a communication for bacterial access to the pulp chambers does not exist, endodontic therapy, restoration, separation with restoration, or extraction.<sup>10, 21, 22</sup> Extraction was the treatment of choice in this case, since the succedaneous supernumerary tooth was in a position to impede eruption of the normal permanent lateral incisor. The timing of the surgery eliminated the

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impedance of incisor eruption and took advantage of a surgical venue when the supernumerary was clear of the developing incisor roots.

At the time this article was written, Dr. Meadors was a resident and Dr. Jones was assistant director, Pediatric Dentistry Residency Program, Fort Lewis, Washington.

1. Ranta R: A review of tooth formation in children with cleft lip/palate. *Am J Orthod Dentofacial Orthop* 90:11-18, 1986.
2. Dahllöf G, Ussisoo-Joandi R, Ideberg M, Modeer T: Caries, gingivitis, and dental abnormalities in preschool children with cleft lip and/or palate. *Cleft Palate J* 26:233-38, 1989.
3. Pöyry M, Ranta R: Anomalies in the deciduous dentition outside the cleft region in children with oral clefts. *Proc Finn Dent Soc* 81:91-97, 1985.
4. Böhn A: Dental anomalies in harelip and cleft palate. *Acta Odontol Scand* 21 (Suppl 38): 1-109, 1963.
5. Kraus BS, Jordan RE, Pruzansky S: Dental abnormalities in the deciduous and permanent dentition of individuals with cleft lip and palate. *J Dent Res* 45:1736-46, 1966.
6. Brook AH, Winter GB: Double teeth: a retrospective study of 'geminated' and 'fused' teeth in children. *Br Dent J* 129:123-30, 1970.
7. Ruprecht A, Batniji S, El-Neweihi E: Double teeth: the incidence of gemination and fusion. *J Pedod* 9:332-37, 1985.
8. Surmont PA, Martens LC, De Craene LG: A complete fusion in the primary human dentition: a histological approach. *ASDC J Dent Child* 55:362-67, 1988.
9. Nik-Hussein NN: Bilateral symmetrical fusion of primary and permanent mandibular lateral incisors and canines. *J Pedod* 13:378-83, 1989.
10. Himelhoch DA: Separation of fused primary incisors: report of case. *ASDC J Dent Child* 55:294-97, 1988.
11. Camm JH, Wood AJ: Gemination, fusion and supernumerary tooth in the primary dentition: report of case. *ASDC J Dent Child* 56:60-61, 1989.
12. Ravn JJ: Aplasia, supernumerary teeth and fused teeth in the primary dentition. An epidemiologic study. *Scand J Dent Res* 79:1-6, 1971.
13. Levitas TC: Gemination, fusion, twinning and concrescence. *J Dent Child* 32:93-100, 1965.
14. Tannenbaum KA, Alling FF: Anomalous tooth development. Case reports of gemination and twinning. *Oral Surg* 16:883-87, 1963.
15. Mader CL: Fusion of teeth. *J Am Dent Assoc* 98:624, 1979.
16. Croll TP, Rains NJ, Chen E: Fusion and gemination in one dental arch: report of case. *ASDC J Dent Child* 48:297-99, 1981.
17. Lowell RJ, Solomon FF: Fused teeth. *J Am Dent Assoc* 68:762, 1964.
18. Hagman FT: Fused primary teeth: a documented familial report of case. *ASDC J Dent Child* 52:459-60, 1985.
19. Primosch RE: Anterior supernumerary teeth — assessment and surgical intervention in children. *Pediatr Dent* 3:204-15, 1981.
20. Humerfelt D, Hurlen F, Humerfelt S: Hyperdontia in children below four years of age: a radiographic study. *ASDC J Dent Child* 52:121-24, 1985.
21. Eidelman E: Fusion of maxillary primary central and lateral incisors bilaterally. *Pediatr Dent* 3:346-47, 1981.
22. Knapp JF, McMahon JJ: Treatment of triple tooth: report of case. *J Am Dent Assoc* 109:725-27, 1984.