Dental anomalies in children with cleft lip and/or palate or both

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ABSTRACT

Objective: Oral and dental examination was carried out among cleft lip and/or palate children, with the aim of assessing the prevalence of dental anomalies in these children.

Materials and methods: One hundred and fourteen children attending two cleft palate clinics were examined with age range of 3 to 18, for dental anomalies.

Results: Seventy eight (68.4%) of the children had one or more dental anomalies. Hypodontia was present in 42 (36.8%) of the children, while 18 (15.8%) had supernumerary teeth and 3 (2.6%) had double teeth.

Conclusion: This study concludes that dental anomalies like supernumerary teeth, hypodontia and double teeth are more common in cleft children.

Keywords: cleft, supernumerary, hypodontia, double teeth.


Facial clefts are among the most common congenital malformations and occur in all populations.1,2 Children with cleft lip and/or palate have also been reported by numerous investigators to have abnormalities in number, size, shape and form, timing of formation and eruption of teeth.3-15 Kraus et al8 reported that children with cleft lip and palate had more dental anomalies in the maxillary than the mandibular dentition, whilst, in children with isolated cleft palate, the maxillary dentition was as frequently affected as the mandibular dentition. In studies of abnormalities in the dentition of cleft children, much attention has been given to the occurrence of supernumerary and missing teeth.5,6,10,12,14,16,17 The most frequent anomaly found in cleft cases is the congenital absence of one or more teeth (Figure 1), and numerous studies have reported the maxillary lateral incisor as the most frequently missing tooth.5,6,10,12,14,16,17

Occurrence of hypodontia has been reported in a sample of 33 cleft cases as 75%,18 while, in another report, only 31.5% of cleft palate children had hypodontia.19

The presence of supernumerary teeth is not as commonly found as is the congenital absence of teeth in cleft children.10 Kraus et al8 found that supernumerary teeth occurred with the same frequency in all three cleft types, while Millhon and Stafne1 reported a significantly higher number of extra teeth in cleft lip and palate, and in cleft palate children compared to those with cleft lip only. Bohn1 reported that supernumerary deciduous lateral incisors were more common than supernumerary permanent lateral incisors. It has been widely reported that the occurrence of this anomaly in the lateral incisor region is greatest in cases of cleft lip only, and decreases as the extent of cleft increases.5,9,20

Delayed the formation of permanent teeth in cleft

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children has been reported by some investigators, while others have reported delayed tooth eruption.

Double teeth have been found to be four times more prevalent in cleft children than non-cleft children. Little work has been carried out on the occurrence of dental anomalies in cleft lip and/or palate children in the United Kingdom, and it was the main purpose of this study was to investigate such anomalies in a sample of cleft lip and/or palate children attending two cleft clinics in the country.

**Materials and methods.** One hundred and fourteen children attending the cleft palate clinics at The London Hospital and St. Andrew's Hospital, Billericay were examined by the author. In the sample, seventy (61.4%) were boys and 44 (38.6%) were girls. The mean age of the sample was 8.0 years (SD 4.2), with a range of 3-18 years and median of 10.5 years. Children with multiple abnormalities and/or recognized syndromes were excluded from the study because it was felt that their additional handicapping condition might influence the occurrence of the anomalies being investigated. Each child was examined seated in a chair and an anglepoise lamp with a 60 watt bulb was used to provide a uniform external source of light.

The examinations were carried out in a standardized systematic manner using a plane mouth mirror and a blunt sickle probe. Facial clefts were divided into three types: (I) Cleft lip (CL), (ii) Cleft lip and palate (CLP), (iii) Cleft palate (CP). Dental anomalies such as supernumerary teeth, hypodontia and double teeth were assessed using criteria which have been previously described.

**Results.** Fifty-nine children (51.8%) had cleft lip and palate (CLP), 44 (38.6%) had isolated cleft palate (CP) and 11 (9.6%) had cleft lip (CL). CL and CLP children, 45 (64.3%) had unilateral clefts and 25 (35.7%) had bilateral clefts.

The prevalence of dental anomalies in the sample is shown in Figure-2. Hypodontia was the most frequent anomaly, with 42 (36.8%) of the children having one or more congenitally missing teeth. Most of those with hypodontia were from the CLP group (88.1%). Seventeen (40.5%) cases of hypodontia were in the deciduous dentition whilst, 25 (59.5%) were in the permanent dentition.

Whilst about 40% of the children of each in the unilateral and bilateral cleft group had hypodontia, only 9.5% of the children with isolated cleft palate had hypodontia. Twenty-five males (59.5%) and 17 females (40.5%) did so.

The most common congenitally missing tooth was the maxillary lateral incisor, and was so in 35.1% of the children examined. Of the children with a unilaterally missing lateral incisor, 58.3% had it missing on the left side and 41.7% on the right side. Premolars were congenitally missing in only 4.4% of the cases.

Eighteen (15.8%) children had supernumerary teeth, with 16 having one each and 2 having two supernumerary teeth each. More supernumerary teeth were found in the deciduous dentition (61.1%) than in the permanent dentition (38.9%). Most of those with supernumerary teeth were from the cleft lip group, that is 63.6%. More males (72.2%) had supernumerary teeth than females (27.8%). Double teeth were found in 2.6% of the cleft children.

**Discussion.** The finding in this study that children with cleft lip and/or palate have a high prevalence of dental anomalies, confirms earlier reports. Children with one or more teeth congenitally missing comprised 36.8% of the sample, which coincides with findings reported elsewhere. More children with unilateral clefts had hypodontia than children with bilateral clefts, again a confirmation of an earlier report.

As in other reports the maxillary lateral incisor was in the present study found to be the most frequent congenitally missing tooth. The presence of supernumerary teeth in 15.8% of the present sample is similar to the findings of Olin.
The prevalence of supernumerary teeth in the deciduous dentition was higher than in the permanent dentition in the present study, which also the case in earlier reports.5,22

The highest percentage of children with supernumerary teeth was found in the cleft lip group. Similar findings have been reported by a number of investigators,59,20 although Kraus et al, found supernumerary teeth with the same frequency in all cleft types2 and Millhon and Stafne3 reported a significantly higher number of supernumerary teeth in cleft lip and palate, and cleft palate children than in children with cleft lip alone.

The prevalence of double teeth found in the present sample was higher than in non-cleft British School children.26

In conclusion this study confirms the general consensus that the occurrence of abnormalities such as supernumeraries, hypodontia and double teeth in cleft children is greater than in non-cleft children. It is suggested that the high prevalence of such anomalies, as confirmed here, may be an important factor in the overall oral and dental status of such individuals.

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