Oral conditions in children from birth to 5 years: the findings of a children's dental program

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The study aimed to assess oral conditions other than caries and gingival inflammation present in the mouth of children from birth to 5 years old attending a Community Dental Program. Data were collected through the examination of all dental records, who attended the clinic from November 1997 until November 1999. A total of 1042 records were examined. The results showed that 97.7% of the patients had no lesions present in the mouth during the visits to the clinic, while 2.3% who presented did have lesions. The conditions most frequently found were: Bohn's nodules, candidiasis and benign migratory glossitis.

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INTRODUCTION

The dentist who treats children must always be very attentive to the possibility of oral pathological conditions appearing in the oral cavity of young patients. In face of the numerous alterations that can arise in the mouth of children, the professional should be able to detect the lesions, while conducting the correct diagnostic and the appropriate treatment. The differential diagnostic is, therefore, a key step in these cases, since many conditions have quite similar characteristics. Furthermore, it is important to emphasize that in a badly conducted examination, some lesions may go unnoticed or lead to the adoption of an incorrect treatment. It was the purpose of this study to assess the dental records of children attending a Community Dental Program during a two year period, to determine which oral conditions these children had during the visit to the clinic and to compare these characteristics of the lesions with those found in the literature.

Materials and methods

A study was done on data collected from dental clinical records of patients, who attended a dental program for children from birth to 5 years old in a Community Pediatric Clinic, in the city of Natal, Rio Grande do Norte State - Brazil, between the period of November 1997 until November 1999. All dental clinical records were examined, from which it was possible to assess the notes made by the dentist concerning alterations present in the mouth of the children in any of the visits to the clinic. Data collected were relative to gender, age, localization of the lesions, bursting period of the lesions, and the recommended treatment. No carious lesions or gingival inflammations were considered in this study. As a basis for the study, a literature review was conducted concerning the clinical characteristics of the lesions found. The data were entered in the statistical program Excel for graphics.

RESULTS

A total of 1042 dental clinical records were examined. From those, 557 (53.6%) were from male patients, and 485 (46.4%) were from female. Although the program runs for children birth to 5 years, the great majority of the records showed the patients had visited the clinic in their first months of life, that is, birth to six months. The number of clinical records without any oral condition was very high as opposed to those with oral conditions present. The distribution is represented in Table and Graph 1.

Table 1. Distribution of cases with and without oral conditions in children aged 0 to 5 years old.

Cases	n	(%)
With lesions	24	2.30
Without lesions	1018	97.70
Total	1042	100.00

Source: Program Dentistry for Children in the Community Pediatric Clinic. Alecrim, Natal - RN, Brazil. 1999.

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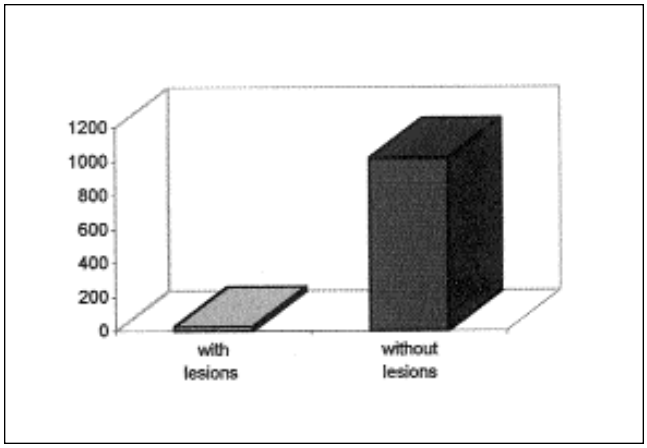
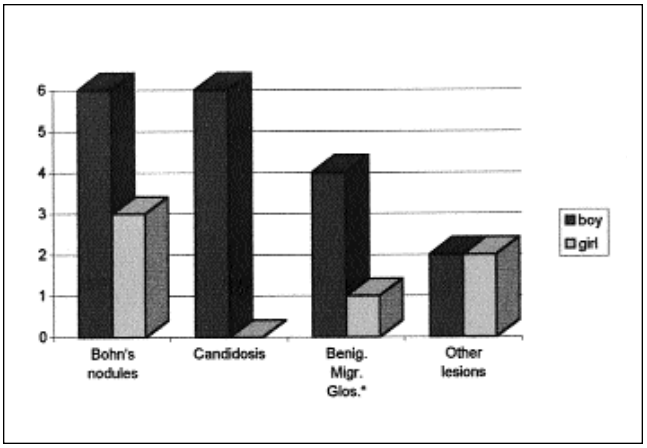


Graph 1. Distribution of cases with and without lesions in children from birth to 5 years old.

Source: Program Dentistry for Children in the Community Paediatric Clinic. Alecrim, Natal - RN, Brazil.1999.



Graph 2. Distribution of the oral conditions in children from birth to 5 years old, by sex.

Among the dental records which had a register of lesions, three types of conditions were most frequently found (Table 2): Bohn's nodules with 9 cases (37.0%), candidiasis with 6 (25.0%), and benign migratory glossitis (also known as geographic tongue) with 5 cases (21.0%). Other pathological lesions such as cysts of eruption and herpetic lesions accounted for 4 cases (17.0%). The male : female rate was 3 : 1. The distribution by sex is illustrated in Graph 2.

Table 2. Frequency distribution of the oral conditions in children from birth to 5 years old by sex.

Lesion	sex		n	(%)
	m	f		
Bohn's nodules	6	3	9	37.0
Candidiasis	6	0	6	25.0
Benig. migr. glos.*	4	1	5	21.0
Other lesions	2	2	4	17.0
Total	18	6	24	100.0

Source: Program Dentistry for Children in the Community Pediatric Clinic, Alecrim, Natal - RN, Brazil, 1999.
* Benign Migratory Glossitis (Geographic Tongue).

DISCUSSION

In spite of the numerous conditions that the mouth of young children is subject, in this study, the number of clinical records with a register of lesions was very small. The majority of the records were of very young patients during their first visit to a dentist. Among the lesions present in the mouth of the children attending the dental program only three could be frequently observed: Bohn's nodules, candidiasis, and benign migratory glossitis.

According to the literature, the clinical aspect of the Bohn's nodules are small white-yellowish blisters, appearing along the alveolar ridge in the first four months of life. These lesions can also be seen in the soft palate as stated by Valentim[1]. In this study, it could be observed that the condition had occurred mainly in the vestibule gingival area between 2 to 4 months of life. According to Walter *et al.*[2] the Bohn's nodules are frequently found in the maxillary arch, and this fact was confirmed by the study, since all nine cases found by the clinician were in the maxillary arch.

Another interesting aspect mentioned by Valentim[1] and also confirmed by the findings of this study is the appearance of the lesions, commonly seen in multiple or isolated blisters. Both aspects had been noticed in the mouth of the children during the visits. Although the disappearance of the lesion may occur naturally, the treatment adopted for the cases was a gentle digital massage on the affected area, followed by observation as recommended by some authors.[1,2] The regression of the conditions was successfully observed after some weeks of the adopted therapy.

The second most common lesion found in the study was the candidiasis, a fungal infection caused by the *Candida albicans*. It was observed between birth to three months old on the surface of the tongue. This finding is in conformity with the information given by Castro *et al.*[3] and Sonis[4], who described the condition as being quite common in neonates, especially around the 7th day of life due to birth contact with an infected mother. The lesions present characteristics of isolated white patches surrounded by clearly defined borders.[5] All lesions were found on the mucosa of the tongue, however, Sonis[4] has considered the possibility of the lesion appearing in any other mucosal surface.

Grupta *et al.*[6], studying the features of this condition, found it to be more common in male patients. In spite of the low number of cases detected in this study, this information was confirmed by the findings, given that

all cases were in male patients. The correct diagnosis of the lesion by the dentist may indicate the presence of disorders such as diabetes mellitus, leukemia or imunodeficiency syndrome among others.[4,5] As one recommended therapy for mild forms of candidiasis, there is the utilization of topical anti-fungal such as Nistatin. Considering the very young age of the patients, no drug therapy had been adopted in the study. The utilization of Nistatin in a few cases associated with the appropriate cleaning of the mouth, showed to be effective for the disappearing of the lesions.

Benign migratory glossitis, is another oral condition normally seen in children.[3] The clinical aspect of multiple areas of papilla scaling, well circumscribed by tenuous white borders, spread on the face of the tongue can be easily detected by the clinician. It was the third most frequent condition found in this study and was present in five babies with age between birth to 6 months of life. It is known that children can often be more affected than adults by this condition, as well as it may be more frequently found in females.[1,3] However, this was not confirmed in this study. All, but one case, were found in baby boys.

Effective treatment for the benign migratory glossitis is yet not known, since its etiology has not been well elucidated. There has been a debate on whether or not the condition is an oral manifestation of the psoriasis.[3,7,8] To date, the recommended therapy may include the topical use of the vitamin A and the use of the complex B solution, and this can be associated with the adoption of a diet where the patient should avoid eating hot, spicy or citric food.[3] All children subject to this kind of therapy had a successful healing of the lesion according to the report.

CONCLUSIONS

According to data obtained in this study, the children who attended the community dental program had a low prevalence of pathological conditions accounting for only 2.3% of all cases. In addition, only three lesions were most frequently present in the oral cavity of the children: Bohn's nodules, candidiasis and benign migratory glossitis. These conditions were observed in newborn babies. In spite of the small number of lesions present, it is important to determine the nature of lesions in newborn and young children as a preventive measure to safeguard the oral health of young patients within a dental program.

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