

Revision articles

## Oral injuries in children: a systematic review of speech therapy interest

*Lesões bucais na infância: revisão sistemática de interesse da fonoaudiologia*

Andréia Lopes de Matos<sup>(1)</sup>  
Maria Aparecida Barbosa de Sá<sup>(1)</sup>  
Mayane Moura Pereira<sup>(1)</sup>  
Stéphany Ketllin Mendes Oliveira<sup>(1)</sup>  
Nádia Nara Soares Teixeira<sup>(1)</sup>  
Daniel Antunes Freitas<sup>(1)</sup>

<sup>(1)</sup> Faculdades Unidas do Norte de Minas – FUNORTE, Montes Claros, MG, Brasil.

Conflict of interest: non-existent

Received in: May 01, 2012  
Accepted on: February 06, 2015

**Mailing address:**

Daniel Antunes Freitas  
Faculdades Unidas do Norte de Minas – FUNORTE  
Avenida Osmane Brandão, s/n – Bairro JK  
Montes Claros – MG  
CEP: 39400-000  
E-mail: danielmestradounincor@yahoo.com.br

### ABSTRACT

The background of this study is speech therapists, physicians and dentists that are professionals that in their professional actions, conduct intraoral examinations on their patients. Many children, from birth, have affection for oral lesions that can bring temporary inconvenience to daily life. The purpose is to provide health professionals a systematic review about the most common oral lesions in children and the interests of speech therapy. Health professionals should always seek to increase their knowledge by improving health care for their patients.

**Keywords:** Oral Health; Stomatitis; Mucocele

### RESUMO

Este estudo tem como tema, fonoaudiólogos, médicos e dentistas que são profissionais que, frequentemente, em suas ações profissionais, realizam exames intrabucais em seus pacientes. Muitas crianças, desde seu nascimento, apresentam o acometimento por lesões bucais que podem trazer transtornos temporários ao cotidiano. O objetivo é apresentar aos profissionais de saúde uma revisão sistemática acerca das lesões bucais mais frequentes em crianças e de interesse da fonoaudiologia. Os profissionais de saúde devem buscar sempre aumentar seus conhecimentos melhorando a atenção à saúde de seus pacientes.

**Descritores:** Saúde Bucal; Estomatite; Mucocele

## INTRODUCTION

The Speech Therapy is a profession in expansion and development in Brazil, especially when viewed through the prism of recognition and official government definition and its inclusion in Public Health Programs<sup>1,2</sup>. All government moves to improve care and access to health care has located the professional speech therapist as an important engine for the development of the public health service. Their essential characteristics, although encouraged by a clinical rigor, took their professional walking toward interdisciplinarity. There are, clearly, the magnitude of the significant exchange of knowledge and experiences with other areas of professionals, mainly of Dentistry and Medicine<sup>1-3</sup>.

The world's scientific literature is replete with present relevant researches on caries in children<sup>4,5</sup>. However, there is a big gap when we observe the low scientific productivity of oral lesions on soft tissue, affecting the oral health of pediatric patients<sup>4,6-8</sup>. It is essential to the affirmation of the high incidence of these lesions in children; and the certainty that, in most cases, these injuries do not get a quick diagnosis that enables a ready treatment<sup>9,10</sup>. There are many myths, mysteries and superstitions surrounding families and professionals with respect to these pathologies. Certainly the great impact those in the food condition and speech development in children are of paramount importance in the context of public health.

Speech Therapists have, very often, the opportunity to realize intraoral visual inspections in pediatric patients. There are, thus, potential detectors of existing lesions and/or abnormalities in these subjects<sup>11</sup>. The role of this person is extremely valuable when it seizes the maximum concept of health promotion and transforming agent, expanding their field of knowledge and adding scientific value to their actions. When contemplating health as excellent quality of life and glimpse the powers of interdisciplinarity, we can incorporate acts resolving the guiding speech. The speech is closely related to early discovery of oral lesions in children and deserves, and has the duty, of involvement in this serious issue<sup>1,2,8</sup>.

The more involved health professionals are in general and specific health problems of their patients, the better the condition of this health promoter. The speech therapist is undoubtedly one of the great pillars of quality made health. The objective of this study is to report by means of a systematic review, information on the main oral diseases affecting pediatric patients,

contributing to the growth of knowledge and the advancement of speech therapy.

## METHODS

For the development of this study of oral lesions that are more common in childhood and of interest to speech therapy, scientific literature searches were conducted in the following online databases/search portals: PubMed/ Medline, SciELO, Lilacs and Bireme. The descriptors and phrases used during searches in databases were: oral lesions, oral lesions in children, oral diseases in children, mucocele, candidiasis, ranula, primary acute herpetic gingivostomatitis, and geographic tongue. These descriptors were used in Portuguese and English. Only made use of the articles published in the last 10 years, which correspond to the years 2001 to 2011, in Portuguese and English and who suffered on relevance to the topic searched. In the initial analysis were obtained 98 articles; after exclusion of articles published before 2001, which treated the lesions exclusively in adults, which were published in languages other than English or Portuguese and does not contemplate the full text. After careful re-evaluation, a total of 31 articles met the established criteria. The articles were studied, complete, compiled from the central axis of the research.

## LITERATURE REVIEW

### Mucocele

Mucoceles are cysts formed from obstruction of the excretory ducts of small accessory mucous glands of the oral cavity. Two phenomena are responsible: the mucus extravasation and mucus retention cyst. And, the first is the most common and is basically related to an injury in the excretory duct of the salivary gland; results in mucus extravasation at the adjacent soft tissues. Often, the lesion is caused by trauma. The second appears after a partial or complete obstruction of the excretory duct as an example, the calculation that causes retention of secretion<sup>8,12</sup>.

The injury has no predilection for any genre. It can appear in any region that homes to a minor salivary gland, being more common in lower lips. Patients with anterior overbite, sharp overjet and upper anterior and superior dental protrusion are more prone to trauma in the lower lip<sup>9,12-14</sup>.

The clinical features may vary. The more superficial lesions are rounded, floating, slightly bluish or translucent, painless format. The deeper lesions have similar

coloring to the local mucosa. The size ranges from a few millimeters to several centimeters<sup>8,9,13</sup>.

And extensive lesions located in certain anatomical positions can bring harm to speech and chewing; highlighting the essential knowledge of the speech therapist about this intraoral pathology. Treatment consists of surgical removal. During surgery, should be also removed the minor salivary glands that surround the mucocele, in order to avoid recurrence<sup>12,14</sup>.

## Candidosis

Candidiasis or “thrush” is the most common fungal infection in pediatric patients. It is caused by *Albicans candida*, fungus that is a member of the oral microflora in most healthy people<sup>3,15</sup>. Some local factors may predispose to the development of oral candidiasis, such as dry mouth, poor oral hygiene, anemia, chronic diseases, viral infections, chronic use of antibiotics and corticosteroids. Newborns and children are particularly susceptible to the disease<sup>16,17</sup>.

It may present different clinical forms, such as:<sup>3,15,18</sup>:

Pseudomembranous candidiasis is the most common form of the disease, popularly known as ‘thrush’. Clinically, it is possible to observe the presence of white or yellowish plaques that are easily removed. There are more frequent in the buccal mucosa, tongue and palate. It is common in newborns as a result of the immune system undeveloped.

Candidiasis Erythema is more prevalent in patients with chronic diseases, and debilitating immune low. The intraoral examination shows erythematous plaques with red dotted aspect, there is a predilection for the dorsal surface of the tongue.

Chronic Candidiasis Hyperplasic, characterized by the presence of white patches that cannot be removed by scraping. This is the least common form. Such lesions are usually located in the anterior region of the oral mucosa and may not be clinically distinguished from common leukoplakia.

Mucocutaneous candidiasis - is a serious oral form, with the majority of cases are sporadic, although it was found a pattern of autosomal recessive inheritance in some families. Normally the immune problem becomes evident early in life, when the patient begins to develop *Candida* infection in the mouth, nail, skin and other regions.

Mucocutaneous candidiasis is a serious oral form, with the majority of cases are sporadic, although it was found a pattern of autosomal recessive inheritance in some families. Normally the immune problem becomes

evident early in life, when the patient begins to develop *Candida* infection in the mouth, nail, skin and other regions.

Pediatric patients with candidiasis complain of pain and burning in the regions of the lesion, with consequent difficulty feeding. When exacerbated, injuries can attack the throat and tongue, also hindering speech. The treatment consists in the use of specific antifungal agents. In children, Nystatin topical presents good therapeutic results<sup>16,19</sup>.

## Ranula

Ranula is the term used by the condition to distinguish mucoceles arising in the mouth floor. The ranulas can give up the mucin extravasation of the submandibular duct or minor salivary glands in the floor of the mouth. May be associated with bacterial infection causing pain, fever and severe discomfort, and a great salivary calculi can cause this injury<sup>20-22</sup>.

The clinical presentation is to increase the volume mouth floor, and as the mucocele, its color can vary from light blue pink<sup>21</sup>.

Children with ranula medium and/or large sizes have difficulty in speech caused by changing the position of the tongue. The treatment consists in removing the Ranula and/or sublingual gland Marsupialization<sup>7,9,22</sup>.

## Gingivostomatitis Herpetic Primary Acute

The Acute Herpetic Gingivostomatitis is the primary infection caused by herpes simplex virus (HSV). This virus is latent life with site in the trigeminal ganglion<sup>23</sup>. Frequent occurs among children aged one to six years of age with a predilection for females and the white race three times more than in black<sup>9,23,24</sup>.

Early on, the child has fever, malaise, irritability, pain when swallowing and regional lymphadenopathy. On oral health, gingivitis is observed, with swelling and redness gums, and severe pain<sup>23,25</sup>. Sequentially, there were formed numerous vesicles which occupy the buccal cavity. Disruption of these vesicles causes the occurrence of shallow ulcers that heal in a few days and spontaneously. The oral feeding damage and impair speech, the mouth movements become painful to the child affected<sup>23,24</sup>.

The treatment is only symptomatic and guidance, especially parents, by understanding the aspect of contagious viral infection. The child must receive care from minute oral hygiene, drinking water frequently to

avoid dehydration; Moreover, acidic and salty foods can exacerbate the pain sensation<sup>8,24</sup>.

## Geographic Tongue

Geographic tongue is a benign change whose main feature is the red erosive lesions with irregular edges whose design resembles the outline of a geographical map; can migrate from one area to another tongue<sup>26,27</sup>.

This condition is more common in the early years of life, and the lesions tend to disappear before puberty. Prevalence in female children<sup>28</sup>. Its etiology is not fully understood, being related to heredity and nutritional deficiency<sup>26,29</sup>.

The lesions do not compromise the taste and can remain active for short or long periods, resolve spontaneously and reappear later. Although, often asymptomatic, spicy foods, acidic or alcoholic beverages can cause stinging and burning<sup>28-30</sup>.

There are no specific treatments; approach may be necessary on the symptoms, when they appear. It is important that the health professional the patient about the benign characteristic of the lesion<sup>26,29,31</sup>.

## FINAL COMMENTS

Health professionals who deal with children and interacts their actions with aspects of the health of the stomatognathic system should always seek to expand their knowledge to providing more and better care to their patients. Speech therapists, doctors and dentists need to act in concert to achieve scientific excellence in their daily activities.

## REFERENCES

- Freitas DA, Antunes SLNO, Mercado LF, Herrera AH, Caballero AD. Perspectiva del Odontólogo sobre la necesidad de unir la Logopedia a la Práctica Clínica. *Rev Clin Med Fam*. 2011;4(1):11-8.
- Varandas CPM, Campos LG, Motta AR. Adesão ao tratamento fonoaudiológico segundo a visão de ortodontistas e odontopediatras. *Rev Soc Bras Fonoaudiol*. 2008;13(3):233-9.
- Freitas DA, Caballero AD, Pereira MM, Oliveira SKM, Silva GP, Hernández CIV. Sequelas bucais da radioterapia de cabeça e pescoço. *Rev. CEFAC*. 2011;13(6):1103-8.
- Silva PSL, Leão VML, Scarpel RD. caracterização da população portadora de câncer de boca e orofaringe atendida no setor de cabeça e pescoço em hospital de referência na cidade de Salvador-BA. *Rev CEFAC*. 2009; 11(Supl3):441-7.
- Almeida FCS, Cazal C, Brandão TB, Araujo ME, Silva DP, Dias RB. Campanha da popularização do auto exame da boca - Universidade de São Paulo, Brasil (Part I). *Rev. Bras. Patol. Oral*. 2005;4(3):147-56.
- Bardellini E, Amadori F, Flocchini P, Conti G, Piana G, Majorana A. Oral findings in 50 children with neurofibromatosis type 1. A case control study. *Eur J Paediatr Dent*. 2011;12(4):256-60.
- Sousa FB, Etges A, Corrêa L, Mesquita RA, Araújo NS. Pediatric oral lesions: a 15-year review from São Paulo, Brazil. *J Clin Pediatr Dent*. 2002; 26(4):413-8.
- Baldani MH, Lopes CML, Scheidt WA. Prevalência de alterações bucais em crianças atendidas nas clínicas de bebês públicas de Ponta Grossa - PR, Brasil. *Pesq Odontol Bras*. 2005;15(4):302-7.
- Knight J. Diagnosing Oral Mucosal Lesions. *Phys. Assist*. 2003;27(3):34-9, 42-3.
- Tack DA, Rogers RS. Oral drug reactions. *Dermatol Ther*. 2002;15:236-50.
- Coser RM, Flório FM, Melo BP, Quaglio JM. Características clínicas do cisto de erupção. *RGO*. 2004;53(3):180-3.
- Lima LM, Possobon RM, Pires FR, Moraes ABA. - Mucous extravasation phenomena em babies. *Braz J Oral Sci*. 2002;1(2):92-4.
- Wu CW, Kao YH, Chen CM, Hsu HJ, Chen CM, Huang IY. Mucoceles of the oral cavity in pediatric patients. *Kaohsiung J Med Sci*. 2011;27(7):276-9.
- Andiran N, Sarikayalar F, Ünal Of, Baydar De, Özyaydin E. Mucocele of the anterior lingual salivary glands: from extravasation to an alarming mass with a benign course. *Int J Pediatr Otorhinolaryngol*. 2001;61:143-7.
- Kurnatowska AJ. Search for correlation between symptoms and signs of changes in the oral mucosa and presence of fungi. *Mycoses*. 2001;44:379-82.
- Samaranayake LP, Cheung LK, Samaranayake YH. Candidiasis and other fungal diseases of the mouth. *Dermatol Ther*. 2002;15:251-69.
- Ellepola ANB, Samaranayake LP. Inhalational and topical steroids, and oral candidosis: a mini review. *Oral Dis*. 2001;7:211-6.
- Goins RA, Ascher D, Waecker N, Arnold J, Moorefield E. Comparison of fluconazole and nystatin oral suspensions for treatment of oral candidiasis in infants. *Pediatr Infect Dis J*. 2002;21(12):1165-7.

19. Ellepola ANB, Samaranayake LP - Adjunctive use of chlorhexidine in oral candidoses: a review. *Oral Dis.* 2001;7:11-7.
20. Bonet-Coloma C, Minguez-Martinez I, Aloy-Prósper A, Galán-Gil S, Peñarrocha-Diago M, Mínguez-Sanz JM. Pediatric oral ranula: clinical follow-up study of 57 cases. *Med Oral Patol Oral Cir Bucal.* 2011;16(2):e158-62.
21. Bahnassy M. A huge oral ranula. *Oman Med J.* 2009;24(4):306-7.
22. Yuca K, Bayram I, Cankaya H, Caksen H, Kiroğlu AF, Kiriş M. Pediatric intraoral ranulas: an analysis of nine cases. *Tohoku J Exp Med.* 2005;205(2):151-5.
23. Whitley RJ. - Herpes simplex virus in children. *Curr Treat Options Neurol.* 2002;4(3):231-7.
24. Blevins JY. - Primary herpetic gingivostomatitis in young children. *Pediatr Nurs.* 2003;29(3):199-202.
25. Tilliss TS, McDowell JD. - Differential diagnosis: is it herpes or aphthous? *J Contemp Dent Pract.* 2002;3(1):1-15.
26. Vörös-Balog T, Vincze N, Bánóczy J. - Prevalence of tongue lesions in Hungarian children. *Oral Dis.* 2003;9:84-7.
27. Kayhan TÇ, Bılaç C, Bılaç DB, Ecemiş T, Ermertcan AT. Annular plaques on the tongue: what is your diagnosis? *Ann Dermatol.* 2011;23(4):548-50.
28. Yılmaz AE, Gorpelioglu C, Sarifakioglu E, Dogan DG, Bilici M, Celik N. Prevalence of oral mucosal lesions from birth to two years. *Niger J Clin Pract.* 2011;14(3):349-53.
29. Ishibashi M, Tojo G, Watanabe M, Tamabuchi T, Masu T, Aiba S. Geographic tongue treated with topical tacrolimus. *J Dermatol Case Rep.* 2010; 4(4):57-9.
30. Masferrer E, Jucgla A. Images in clinical medicine. Geographic tongue. *N Engl J Med.* 2009;361(20):e44.
31. Adams SP. Dermacase. Geographic tongue. *Can Fam Physician.* 2002; 48:697-702.