## Salivary gland disease associated to human immunodeficiency virus

Daniele Manhães Caldas, 1 Arley Silva Jr, 2,3 Sandra R. Torres 3

- <sup>1</sup>Forensic Medicine Institute, Rio de Janeiro, RJ, Brazil
- <sup>2</sup>Department of Pathology, School of Medicine, Federal Fluminense University UFF, Niterói, RJ, Brazil
- 3Department of Pathology and Oral Diagnostic, School of Dentistry, Federal University of Rio de Janeiro UFRJ, Rio de Janeiro, RJ, Brazil
- · Conflicts of interest: none declared.

## Dear editor.

he article by Lima *et al.*<sup>1</sup> published in a recent edition of your journal provides relevant information about the prevalence of oral manifestations in children infected by human immunodeficiency virus (HIV). The authors report that oral candidiasis and parotid hypertrophy are frequent oral changes. In this way, it is important to highlight "HIV-associated salivary gland disease" (HIV-SGD), which is a term used to describe a salivary glands enlargement and/or a reduction in the salivary function observed in HIV-infected patients.<sup>2</sup>

The salivary enlargement caused by HIV-SGD is usually a painless swelling that affects the parotid glands.<sup>3</sup> Hyposalivation and its related symptoms, like xerostomia and dysgeusia have been reported even in early phases of disease. In addition, sialochemistry changes may occur, such as reduction of lysozyme, lactoferrin and histatin-5 concentrations which are innate defense factors, and contribute to mucosal protection.<sup>4</sup>

The pathogenesis of the HIV-SGD is not well known.

The reported causes are the presence of HIV in the salivary gland,<sup>5</sup> adverse drug effects<sup>6</sup> and viral infections.<sup>2</sup> Other possible causes are diffuse infiltrative lymphocytosis syndrome,<sup>7</sup> cystic lesions in the parotid gland, as well as cysts associated with malignant and benign neoplasms.<sup>8</sup>

Saliva stimulants such as bromhexine, pilocarpine, cevimeline and bethanechol may be used to control hyposalivation, although there are no published trials to improve hyposalivation in patients with HIV-SGD.<sup>5</sup> Patients should be advised to seek routine dental examinations, and maintain good oral hygiene, increase the water intake, stimulate salivary flow rates, have frequent topical fluoride applications, and use of salivary substitutes.<sup>9</sup> The parotids swelling may sometimes improve with drug therapy, such as zidovudine and chlorambucil.<sup>10</sup>

In summary, impaired salivary function usually causes oral problems and needs to be detected early. Dentists need to be familiar with the possible clinical manifestations resulting from the HIV-SGD and the prophylactic procedures to maintain oral health.

## References

- 1. Lima MCBF, Silva Junior A, Torres SR. Prevalence of oral manifestations in HIV-infected children: a literature review. Rev Bras Odontol. 2017;74(3):240-3.
- 2.Schiødt M, Dodd CL, Greenspan D, Daniels TE, Chernoff D, Hollander H, et al. Natural history of HIV-associated salivary gland disease. Oral Surg Oral Med Oral Pathol. 1992;74(3):326-31.
- 3. Malhotra S, Singh P. Human Immunodeficiency Virus and Oral Health. 2014;3(1):1460-8.
- 4. Samaranayake YH, Samaranayake LP, Pow EH, Beena VT, Yeung KW. Antifungal effects of lysozyme and lactoferrin against genetically similar, sequential Candida albicans isolates from a human immunodeficiency virus-infected southern Chinese cohort. J Clin Microbiol. 2001;39(9):3296-302.
- 5. Nagaraj KR, Savadi R. Prosthodontic Management of HIV/AIDS Subjects: An Overview. J Indian Prosthodont Soc. 2012;13(4):393-9.
- $6.\ Narani\ N,$  Epstein JB. Classifications of oral lesions in HIV infection. J Clin Periodontol. 2001;28(2):137-45.

- 7. Syebele K, Munzhelele TI. The potential impact of highly active antiretroviral therapy on the treatment and epidemiology of ranula in human immunodeficiency virus-positive patients. Oral Surg Oral Med Oral Pathol Oral Radiol. 2013;116(1):32-6.
- 8. Torres SR, Peixoto CB, Caldas DM, Silva EB, Akiti T, Nucci M, et al. Relationship between salivary flow rates and Candida counts in subjects with xerostomia. Oral Surg Oral Med Oral Pathol Oral Radiol Endod. 2002;93(2):149-54.
- 9. López-Verdín S, Andrade-Villanueva J, Zamora-Perez AL, Bologna-Molina R, Cervantes-Cabrera JJ, Molina-Frechero N. Differences in Salivary Flow Level, Xerostomia, and Flavor Alteration in Mexican HIV Patients Who Did or Did Not Receive Antiretroviral Therapy. AIDS Res Treat. 2013;2013:1-6.
- 10. Itescu S, Brancato LJ, Buxbaum J, Gregersen PK, Rizk CC, Croxson TS, et al. A diffuse infiltrative CD8 lymphocytosis syndrome in human immunodeficiency virus (HIV) infection: a host immune response associated with HLA-DR5. Ann Intern Med. 1990;112(1):3-10.

## Mini Curriculum and Author's Contribution

- 1. Daniele Manhães Caldas DDS. Contribution: effective scientific and intellectual participation in the study; study conception and design; data collection; data interpretation; manuscript preparation; manuscript writing; critical review and final approval.
- 2. Arley Silva Jr DDS and PhD. Contribution: effective scientific and intellectual participation in the study; study conception and design; manuscript writing; critical review and final approval.
- 3. Sandra R. Torres DDS and PhD. Contribution: effective scientific and intellectual participation in the study; study conception and design; manuscript writing; critical review and final approval.

Submitted: 11/14/2017 / Accepted for publication: 12/17/2017

Corresponding Author Sandra R. Torres

E-mail: sandratorres@ufrj.br