

## RELATO DE CASO

### PAROTID ENLARGEMENT DUE TO ADENOVIRUS INFECTION IN PATIENT WITH HUMAN IMMUNODEFICIENCY VIRUS INFECTION

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*The authors report a case of adenovirus-induced enlargement of the parotid gland involving a patient infected with human immunodeficiency virus (HIV). Physical examination revealed good general condition, no fever and bilateral enlargement of the parotid region, which was of increased consistency and slightly tender to palpation. Histological examination of the parotid gland demonstrated a slight periductal lymphomononuclear inflammatory infiltrate with the presence of focal points of necrosis. Tests to determine the presence of fungi and alcohol-acid resistant bacilli were negative. Immunohistochemistry for cytomegalovirus, herpes simplex, HIV p24 antigen and adenovirus showed positivity only for adenovirus in the epithelial nuclei of numerous gland ducts. This is the third case of this type reported in the literature, indicating the importance of including adenovirus in the differential diagnosis of this condition.*

*Key-words: Human immunodeficiency virus. Adenovirus. Parotid gland.*

The involvement of salivary glands, especially the parotid glands, in patients with AIDS has been recognized as one of the multiple clinicopathologic manifestations of infection with HIV.

Since the first description of AIDS-related involvement of the parotid and submandibular glands described by Ryan in 1985<sup>3</sup>, a large number of pathologies involving the parotid glands have been reported. Usually, intraparotid and periparotid lymph nodes are involved, with the common occurrence of hyperplastic lymphadenopathy and benign intraepithelial lesions<sup>4</sup>.

Adenoviruses frequently attack HIV-infected patients, causing events ranging from asymptomatic excretion in urine and feces to clinical manifestations of variable severity<sup>5,6</sup>.

We report a case of parotid enlargement in an HIV-infected individual associated with adenovirus in the parotid ducts.

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## CASE REPORT

A 52-year old male homosexual was seen at the Paulista Institute of Infectious and Parasitic Disease on January 30, 1995, with a cervical and bilateral preauricular tumor formation starting 6 months prior to admission. He denied pain, mouth dryness, fever or weight loss. He reported only a single episode of herpes zoster 1 year prior to examination, with spontaneous resolution.

Physical examination revealed a good general condition, no fever and bilateral enlargement of the parotid region, with increased consistency and slightly tender to palpation, as well as hepatomegaly. There were no additional alterations. Blood counts showed 1,762 lymphocytes/mm<sup>3</sup>.

The ELISA for HIV was positive, with later confirmation by Western blot. On March 1, 1995, CD<sub>4</sub> counts were 577/mm<sup>3</sup> and CD<sub>8</sub> of 810 mm<sup>3</sup>. On that occasion, tomography of the cervical region showed diffuse and heterogeneous enlargement of the parotid glands with intraglandular nodular images, some of them of cystic or necrotic type, adenomegaly of the carotid chain, and hepatomegaly with three images compatible with angiomas.

Histologic examination of a parotid biopsy demonstrated a periductal lymphomononuclear

inflammatory infiltrate with the presence of focal necrosis. A search for fungi by Grocott staining and for alcohol-acid-resistant bacilli (AARB) by Ziehl-Neelsen staining was negative. Immunohistochemistry for cytomegalovirus, herpes simplex, AARB, HIV p24 antigen and adenovirus showed positivity only for adenovirus in the epithelial nuclei of the of numerous gland ducts (Figure 1). It was not possible to identify the serotype. The patient was submitted to 500mg/d zidovudine and coursed satisfactorily, with weight gain of 5kg and considerable reduction of parotid size upon physical examination six months after diagnosis. The patient is currently doing well one year back.



Figure 1 - Parotid gland with positive immunostainig for adenovirus in the nuclei and cytoplasm of the ductal epithelium. Immunohistochemical, adenovirus monoclonal chemicon 1/100 cab. X 630 OM.

## DISCUSSION

The involvement of the parotid glands in HIV-infected or AIDS patients may be potentially

due to a large number of conditions. Lymphoepithelial lesions (lymphoepithelial sialopathy) without the non-salivary components of Sjögren syndrome have been reported, together with lymphoepithelial cysts and hyperplastic lymphadenopathy both within intraparotid and periparotid lymph nodes<sup>4</sup>. These findings have been associated with the detection of p24 antigen by immunohistochemistry in parotid lymphoid lesions<sup>2</sup>. Other conditions reported were adenoid cystic carcinoma<sup>17</sup>, non-Hodgkin's lymphoma<sup>9</sup>, Kaposi's sarcoma<sup>12</sup>, and acute or chronic sialoadenitis<sup>2</sup>.

It is estimated that approximately 12% of patients with AIDS have active adenovirus infections<sup>8</sup> and that this virus is isolated from the urine of up to 20% of the infected patients<sup>5</sup>, although adenoviruses usually do not participate significantly in opportunistic pathological processes. However, adenoviruses have been described in patients with AIDS in different situations such as gastrointestinal infections<sup>11</sup>, respiratory infections often complicating cases of acute respiratory insufficiency<sup>16</sup>, disseminated infections with liver necrosis<sup>9</sup>, renal infection with necrotizing tubulointerstitial nephritis<sup>7</sup>, encephalitis and disseminated ependymitis<sup>1</sup>, and related to granuloma annulare-like skin lesions<sup>5</sup>.

No effective *in vivo* chemotherapeutic agents against adenoviruses exist today. Ribavirin has *in vitro* activity against adenoviruses but systemic treatment with this agent requires additional study<sup>10</sup>. Due to the lack of specific medications of proven clinical efficacy for the treatment of adenovirus infection and based on the potential co-participation of HIV in the pathogenesis of parotid enlargement in these patients, we administered antiretroviral therapy with zidovudine for our case in spite of not having demonstrated p24 antigen in parotid. AZT treatment reduced the size of the tumor-like formations and produced an acceptable cosmetic and symptomatic result, as reported in previously<sup>15</sup>. Further investigation is needed to define the best diagnostic and therapeutic approach to the various types of parotid involvement in HIV-infected or AIDS patients.

Two other cases of adenovirus-induced enlargement of the parotid gland involving HIV-infected patients have been reported in the literature. These two patients, in contrast to ours, had advanced HIV infection, with a previous history of opportunistic infections<sup>6</sup>.

The present report is important because it supports the hypothesis that adenovirus should be considered in the differential diagnosis as an agent causing enlargement of the parotid gland among HIV-infected patients who may or may not have progressed to AIDS.

## RESUMO

*Os autores relatam um caso de aumento da glândula parótida ocasionado por adenovírus, em paciente infectado pelo vírus da imunodeficiência humana. Ao exame físico, este se apresentava em bom estado geral, afebril e com aumento bilateral de parótidas, de consistência aumentada e discretamente dolorosas à palpação. O exame histológico da parótida demonstrou discreto infiltrado inflamatório linfomononuclear periductal com presença de focos de necrose, as pesquisas para fungos e bacilos álcool ácido resistentes foram negativas. A técnica de imuno-histoquímica para citomegalovírus, herpes simples, antígeno p24 do HIV e adenovírus, somente evidenciou positividade para o último. Este é o terceiro caso descrito na literatura, destacando a importância de incluir o adenovírus, no diagnóstico diferencial, deste acometimento.*

*Palavras-chaves: Vírus da imunodeficiência humana. Adenovírus. Parótida.*

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