

Case report on a rare lesion in an HIV-infected child: hairy leukoplakia

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This report describes a case of hairy leukoplakia in an HIV-infected child, and the treatment adopted. It was diagnosed by clinical and laboratory examinations, using exfoliative cytology (staining by the Papanicolaou method) and additional information was obtained by optical microscope analysis. In view of the lack of painful symptoms, of the innocuous nature of the lesion and large amount of medicines used by the patient, we decided to preserve and monitor the lesion.

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INTRODUCTION

Oral manifestations are commonly found in HIV-infected children,^{2,6,7,9} however, because the widespread use of combined therapy (anti-retroviral therapy), the prevalence of such lesions has been declining.^{2,3,20} Some lesions such as erythematous and pseudomembranous candidiasis, hairy leukoplakia and linear gingival erythema, when present, may be very severe in HIV infection, indicating the deficiency of the immunological system which promotes faster progression of the disease.^{10,13,14}

Hairy leukoplakia is an irremovable, whitish, corrugated lesion, with an uneven surface, typically located along the lateral border of the tongue. It may or not be asymptomatic with no malignant potential, and commonly observed in HIV-infected adults.²² The first clinical case, in adult described in literature and associated to HIV infection, occurred at the beginning of the 1980s.¹² Since then, several studies have been shown

better light on the etiopathogenic mechanism and prognostic value in relation to HIV infection.¹⁸

The Epstein-Barr virus is related to the etiology of hairy leukoplakia, some authors stressing the great importance of its presence in laboratory exams in the definitive diagnosis of hairy leukoplakia.¹²

The first case of hairy leukoplakia in HIV positive children was reported in 1988.¹¹ The frequency of appearance in pediatric patients is less common when compared with that of infected adult patients.²¹⁻²² Castro, Fonseca *et al.* and Portela *et al.* showed that prevalence in groups of HIV-infected children varied from 1.1% to 1.96%.^{2,6,20} Notwithstanding, Ferguson *et al.* showed that this frequency in children may be greater than reported for other authors, probably because in some cases hairy leukoplakia is associated to pseudomembranous candidiasis, making it difficult to diagnose and meaning that the lesion may go unnoticed.⁵

In the present study we described a rare lesion in an HIV infected child – hairy leukoplakia, as well the treatment used.

CASE REPORT

A 12-year old female child, with a definitive diagnosis of HIV, was contaminated by vertical transmission, belonging to AIDS Project in Paediatric Clinic of Dental School and to the Paediatric AIDS Clinic of the Institute of Paediatric and Childcare of Federal University of Rio de Janeiro – Brazil. Details of routine laboratory examinations undergone by the patient for monitoring the HIV infection, as well as of medications being taken, were obtained from her medical record (Table 1).

A routine clinical oral examination showed an irremovable, bilateral, wrinkled lesion, on the posterior

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Table 1. Patient's laboratory data.

Age	Transmission	Classification CDC	Viral Load	%CD 4	Medications being used (antiretroviral drugs)
12 years	Vertical	C3	170,000	1%	Protease inhibitor

lateral border of the tongue, suggesting hairy leukoplakia. According to the professional responsible and the patient herself, she had felt no discomfort such as pain or burning sensations associated to the lesion. The clinical examination also showed the presence of infarct of the right and left submandibular lymph

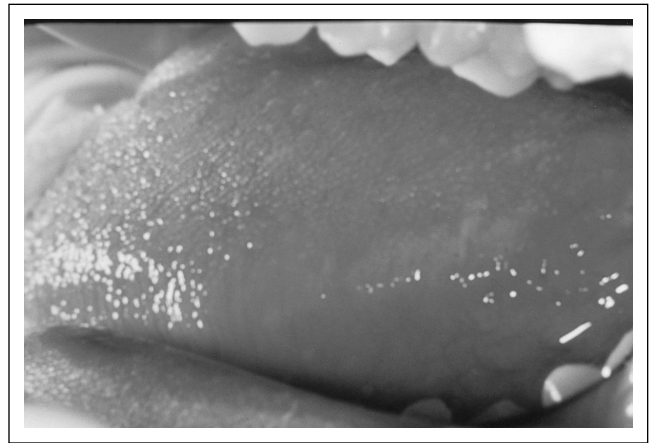


Figure 1. Intraoral photograph showing the clinical aspect of the hairy leukoplakia.

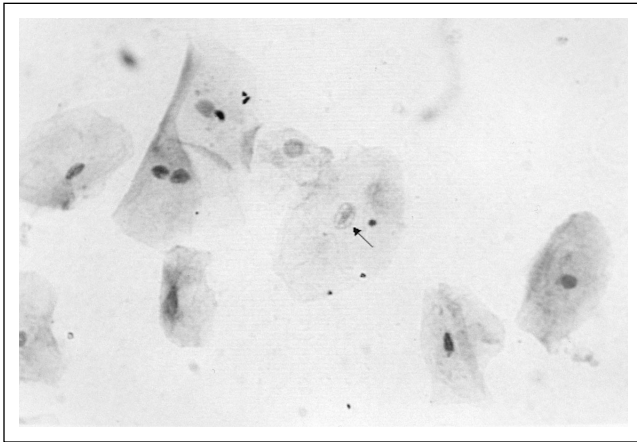


Figure 2. Microscopic photograph showing the aspect of nuclear alteration – Cowdry type A.

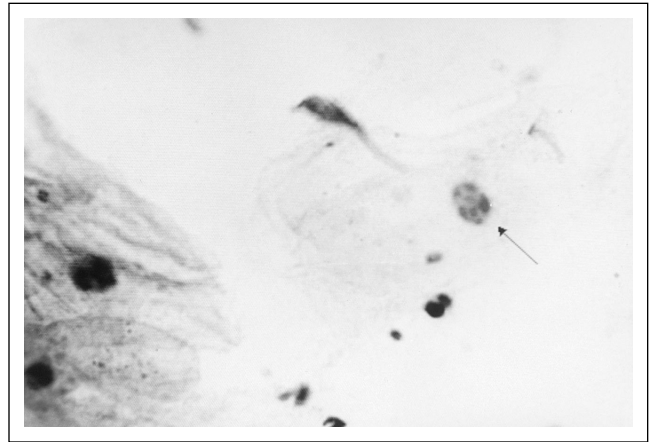


Figure 3. Microscopic photograph showing of nuclear alteration – nuclear beading.

nodes, linear gingival erythema in the superior and inferior arcs and pseudomembranous candidiasis in the hard palate. After examination, the patient was sent to a pediatrician, who prescribed Nistatin(mouthwashes, and then to the Department of Oral Pathology of Federal University of Rio de Janeiro - Brazil for investigating the lesion on the lateral border of the tongue.

One week later, the pseudomembranous candidiasis on the palate had disappeared, there had been a mild reduction of the redness of the linear gingival erythema, although the bilateral infarct of the submandibular lymphonodus and the lesion on the lateral border of the tongue (Figure 1) still persisted. It was decided to collect material from the lesion suggesting hairy leukoplakia for a cytopathological examination. Wooden spatulas were used to scrape the lesion and the scrapings were then smeared on a glass slide and fixed in 96% alcohol. The material was stained with Papanicolaou stain and subsequently analyzed under an optical microscope.

The microscopic examination showed the presence of three nuclear alterations characteristic for cytopathological diagnosis of hairy leukoplakia: the

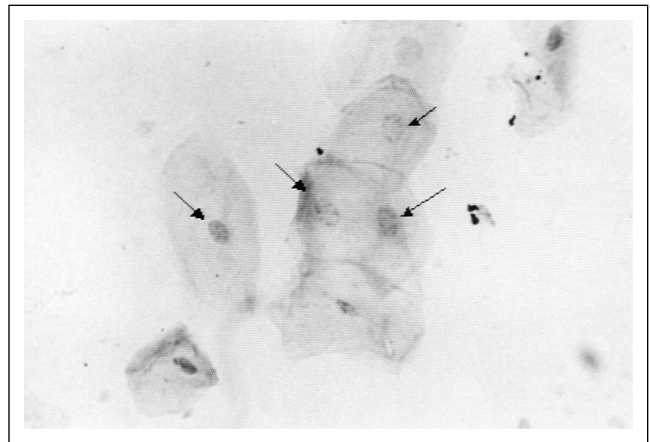


Figure 4. Microscopic photograph showing of nuclear alteration – ground glass.

first was Cowdry type A, the second ground-glass and the third nuclear beading (Figures 2, 3 and 4).

We decided to preserve the lesion, because it was asymptomatic. The patient had been observed every

month during the routine exams of the Project AIDS in Pediatric Dentistry.

DISCUSSION

The current classification of mouth lesions associated to HIV infection classifies hairy leukoplakia as a lesion closely associated to the infection. However, findings in literature have shown almost unanimously that hairy leukoplakia is rare in children,^{4,14} with a prevalence varying from 1.1% to 2.0% of pediatric cases of HIV infection.^{2,6,20,22}

Katz *et al.* justify the low prevalence of this lesion in children by saying that multiple strains of the Epstein-Barr virus would be necessary to induce its viral replication and to develop the lesion. Probably, children were not sufficiently exposed to the necessary quantities of strains for producing it.¹⁴ This particular case involves a 12-year old patient infected by vertical transmission, which could indicate that there was a greater interval of time for the patient's exposure to the Epstein-Barr virus.

Ferguson *et al.* when they reported the case of an HIV-infected child with hairy leukoplakia, showed that this lesion, in many cases, could be associated to pseudomembranous candidiasis, thus making it hard to diagnose.⁵ The patient in this case, during the first clinical examination, showed pseudomembranous candidiasis lesions only on the hard palate, which made the clinical diagnosis suggesting hairy leukoplakia easier.

The lesion of this report was located bilaterally on the lateral border of the tongue. This fact corroborates the study made by Ramos-Gomez which indicated hairy leukoplakia as being a lesion characteristically located on the lateral border of the tongue, also believing that in this region there are specific receptors for the etiological agent, although it can be found, occasionally, in the oropharyngeal mucosa.²²

Fraga-Fernández and Vicandi-Plaza, and Migliorati *et al.* recommended exfoliative cytology as a safe, non-invasive and low-cost method easily done by the professional, without requiring previous training, for diagnosing hairy leukoplakia.^{8,17} It would also be the method most indicated for patients with hemophilia or other blood coagulation disorders, seriously debilitated patients or even those who refuse to have a biopsy. In this particular case, therefore, as the patient was a child and systemically very debilitated, it was decided to use exfoliative cytology for diagnosing this case.

The prognosis of hairy leukoplakia in relation to the infection by HIV in adults has already been recognized by a number of authors. The lesion may as much represent a precocious sign of HIV infection when the serologic state of the patient is not recognized, and indicate a need for more careful monitoring of patients that are known to be HIV-infected.^{10,15}

As to its significance in children, this has not been well explained. Castro, in a correlation study between

oral manifestations and clinical and immunological classification in HIV-infected children did not show an association of hairy leukoplakia with other variables, because of the very low prevalence (1.1%), thus making correlation difficult.¹ In this study, the laboratory data showed that the patient was seriously debilitated (high viral load and low CD4 percentage), also showed mouth lesions such as linear gingival erythema that had been previously associated with the progression of the HIV infection.¹ However, it cannot be considered for the presence of hairy leukoplakia, because accounts of cases in children show that there were differences in the systemic condition of the same carriers of the lesion.^{16,19}

Nadal *et al.* and Laskaris *et al.* indicated Aciclovir for a month as the choice of treatment for hairy leukoplakia in children the therapy.^{16,19} We did not use this treatment in our patient, because due to the lack of any kind of symptomatology, the large amount of medicines already being taken by the patient and the innocuous nature of the lesion, it was decided to preserve and observe it every month during routine mouth examinations.

In view of the above comments and in spite of the long time since it was first reported in literature until today, doubts are still raised about the significance of hairy leukoplakia in HIV-infected children. Hence, studies of the transversal type and/or principally monitoring are necessary for clarifying doubts about the diagnosis, treatment and prognosis in relation to HIV infection in children.

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