Finding the Carrying of HIV/AIDS, Sexually Transmitted Diseases and Overreaching in a Pediatric Patient who Attended the Dental Clinic in the HIGA, President Perón

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Abstract

Acquired immunodeficiency syndrome (AIDS) is a term applied to the most advanced stages of HIV infection and is defined by the presence of one of more than 20 opportunistic infections or cancers related to HIV. The human immunodeficiency virus (HIV) was detected in children for the first time in 1982, since then the infection has expanded and is now a major cause of death in the pediatric group. In the present publication we will present the situation of a 17-year-old adolescent who discovered the carrying of HIV/AIDS due to a dental finding, and who in turn had an overgrowth of Syphilis, Human Papilloma Virus (HPV), Toxoplasmosis, Hepatitis A, Mononucleosis and Cytomegalovirus (CMV), its evolution over time and the multidisciplinary work of doctors - dentists - psychologists and social assistance.

Keywords: Pediatrics; Adolescence; AIDS; Kaposi's Sarcoma; HPV; CMV; Syphilis

Introduction

Acquired immunodeficiency syndrome (AIDS) is a term applied to the more advanced stages of HIV infection and is defined by the presence of more than 20 opportunistic infections or cancers related to HIV [1-3].

Pindborg in 1989 classified these lesions, and grouped them into six forms: fungal infections, bacterial infections, virus infections, neoplasms, neurological disturbances and manifestations of unknown causes. Two years later, researchers from around the world report less frequent and more frequent oral lesions such as: pseudomembranous candidiasis, hairy leukoplakia, canker sores, gingivitis, periodontitis and Kaposi’s sarcoma [4-8].

The human immunodeficiency virus (HIV) was detected in children for the first time in 1982, since then the infection has expanded and is now a major cause of death in the pediatric group [9].

The vast majority of children with HIV infection present, within their first signs of disease, oral manifestations. This is because there are essential risk factors that predispose to the development of such oral manifestations, such as the low number of CD4+ T lymphocytes, xerostomia and the absence of antiretroviral treatment [10,11].

Due to a progressive depletion of CD4 T lymphocytes, with loss of immune functions, to the complex interaction with other oncogenic viruses such as Epstein Bar virus (EBV), herpes virus type 8, cytomegalovirus (CMV) and also with human papillomavirus (HPV), children with infection with the human immunodeficiency virus (HIV) are at high risk of developing neoplasms [12-15]. Although the prevalence of cancer is lower in children than in adults infected with HIV, it has been estimated that pediatric patients have a 100-fold higher risk of developing cancer than children not infected with HIV [16].

One of the first symptoms found when performing the physical examination are: symmetric or unilateral lymphadenopathies, which usually present as soft, regular nodules, not adhering to structures and persisting for many months [6,9,12,17]. Another manifestation is Kaposi’s Sarcoma, whose prevalence in HIV + children is scarce, only specific cases such as those of Hernández in 1998 are described; Coulter in 1993, and in studies conducted in Uganda that found the highest prevalence describing 25 cases of children with Kaposi’s sarcoma [9,18].

In oral lesions, Kaposi’s sarcoma involves the oral cavity in more than 55% of patients with this neoplasm, it can occur anywhere in the buccal mucosa, but it commonly involves the keratinized and adherent mucosa. The location of preference is the hard palate and the gingiva [19,20]. In some patients, the oral cavity is the only site where Kaposi’s Sarcoma is implanted [21-25].

When Kaposi’s sarcoma affects the gum, it causes an increase in the diffuse volume of the interdental papilla, reminiscent of periodontal disease, sometimes with the formation of pockets, which can be secondarily infected and associated with candidiasis. Lingual lesions usually affect the middle part of the dorsal aspect with volume increase with normal or paler coloration [23-26].

Adolescence is a stage that takes place between 10 and 19 years and is linked to processes of social interaction, definition of identity and taking responsibility, which makes it especially vulnerable [1,27].

**Materials and Methods**

For the present investigation fundamentally the rights of the patient were protected, firstly under the consent signed by the mother of the represented and the authorization in the teaching area of the Hospital Interzonal General de Agudos, President Perón, respecting the ethical principles based on the Declaration of Helsinki.

**Clinical situation**

HIGA Pte. Perón receives a 17-year-old male patient with pain in the tooth 1.6 who underwent intraoral examination on hard palate whitish spots that break off when rubbing, violet spots on the hard palate at the level of upper right and left premolars and erythema on the soft palate (Figure 1). At the same time, a white pseudomembrane is observed on the lingual dorsum (Figure 2), which is detached by scraping with gauze. In the lower labial mucosa (Figure 3), jugal mucosa (Figure 4) and upper labial mucosa (Figure 5) multiple pediculated lesions are observed; and a rough-looking lesion on the edge of the right tongue (Figure 6).

During the anamnesis, the patient reports not having a family history of importance, but he is under treatment for two months with the urology service of HIGA "Pte. Perón" because of genital human papilloma virus (HPV); He reported having suffered episodes of fever, dizziness and vomiting during the past weeks. A ganglionar inspection, presents palpable painful adenopathies with a month of evolution in the occipital, mastoid, parotid, submaxillary, jugulocarotid and inguinal groups (the latter presented violaceous coloration and pain) (Figure 7-10).
Figure 1: First photograph of the patient when attending the dental office for pain in room 16. There is presence of Mughet (Candidosis), bad dental hygiene, and the palate with violaceous lesions on both sides of the midline.

Figure 2: The hairy tongue characteristic of the presence of a Candidosis is observed.
Figure 3-5: Exophytic lesions are observed in the lower, jugal and superior mucosa compatible with HPV.

Figure 6: Rough lesion on the posterior border of the tongue.
Laboratory studies are requested: complete blood count, leukocyte formula, erythrosedimentation, monotest (mononucleosis), Anti Ag C and Anti Ag S Hepatitis B, VDRL, HIV.

It is decided to solve the urgency of the piece 16 performing the extraction of it.
After 48 hours, the patient attended the dental ward presenting a blood clot coming from the alveolus of tooth piece 1.6 reflecting a torpid healing in the alveolus, approximately 5 cm by 5 cm in size (Figure 11), which is followed by curettage of it and irrigation of the alveolus. During the control, after 48 hours, it is observed that the area healed favorably. After 7 days the patient comes to the guard again with a coagulum from the same alveolus, similar to the previous size. It proceeds to irrigate with physiological solution and curerate said alveolus.

*Figure 11: Torpid healing of the alveolus after extraction of the piece 16. A bleeding clot is observed in the region.*

Exacerbation of palatal lesions is observed: increase in size and intensification of violaceous coloration of macules on hard palate, and evolution to nodule of erythema on soft palate. There is also an increase in volume and a change in the violaceous coloration of the gingiva in the right retromolar trigone area. Linear erythema in the fundus of the vestibular sulcus of the maxilla (Figure 12 and 13). In turn, the patient reports presenting hematuria.

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Figure 12-13: The worsening of the violaceous lesions of the hard palate is observed.

It is decided to refer urgently to the Infectology service of the hospital for their interconsultation and subsequent treatment.

At the exhaustive medical examination there is a thin patient, who reports a decrease of at least 15 kilos in weight in the last months and abdominal pain. The physical examination shows: verrucous lesions on the penis and anus. In turn, hepatomegaly is perceived on abdominal examination, associated with diffuse pain. On his own, the patient reports dysphagia and heartburn, as well as presenting a whitish-yellow discharge from the urethra. The following serologies are performed:

- HIV: Reactive (by CMIA)
- Hepatitis B: Ac anti S positive (Corresponding to vaccinal immunization)
- Hepatitis C: Not reactive
- Syphilis: Reactive VDRL (4 dils), with confirmation by positive FTA-Abs.

It is decided to be admitted to the medical clinic for general compensation and to complete studies, while treatment for syphilis and urethritis is started, the first with Benzathine Penicillin 2400000 IM units once a week (for a total of 3 doses), and the second with 1 intramuscular dose of 250 mg of Ceftriaxone plus Azithromycin 1gr monodosis.

Result

Complementary studies are completed, obtaining the following results:

- VEDA reporting active chronic gastropathy.
- Abdominal ultrasound revealing hepato-splenomegaly.
- TAC of abdomen and thorax: which shows increased liver size with non-nodular heterogeneous images.
- Serology is completed: Hepatitis A IgG positive, Toxoplasmosis IgG positive, EBV IgG positive, CMV IgG positive, Chagas ELISA and HAI non-reactive, 2nd sample for reactive HIV (ELISA).
- Negative blood cultures.
- PAMO for: stains (negative), culture of common germs (negative), culture for mycobacteria (ongoing), fungal culture (ongoing) and pathological anatomy.

In order to decrease the amount and activity of the oral microbiota, friction antisepsis was performed in the surgical approach area with 10% povidone iodine solution. The trunk was anesthetized to the buccal and lingual nerves. An excisional biopsy of the retromolar lesion was performed. Infiltrative anesthesia was performed on the palate and incisional biopsy at the height of right and left premolars. Then both wounds were sutured and surgical cement was placed due to the experiences of torpid scarring that he had previously.

Surgical technique

In order to decrease the amount and activity of the oral microbiota, friction antisepsis was performed in the surgical approach area with 10% povidone iodine solution. The trunk was anesthetized to the buccal and lingual nerves. An excisional biopsy of the retromolar lesion was performed. Infiltrative anesthesia was performed on the palate and incisional biopsy at the height of right and left premolars. Then both wounds were sutured and surgical cement was placed due to the experiences of torpid scarring that he had previously.

The samples were immersed in 10% formaldehyde and sent to the Chair of Pathological Anatomy of the Faculty of Dentistry of the University of Buenos Aires (Figure 14 and 15).

In the first control 24 hours after performing the biopsies, favorable evolution of healing and multiple soft palate erythema were found (Figure 16).
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The result of the biopsy was for the 3 intakes (right and left hard palate and retromolar trigone) Kaposi’s sarcoma with the performance of the positive immunohistochemistry-HHV 8 (Figure 17).

**Figure 14-16:** Biopsy of bilateral hard palate Kaposi Sarcomas and retromolar trigone area.

**Figure 17:** Biopsy report of the Pathological Anatomy Service of the Faculty of Dentistry of the UBA. Positive result for Kaposi’s Sarcoma with the performance of the positive HHV-8 immunohistochemistry.

*Figure 14-16: Biopsy of bilateral hard palate Kaposi Sarcomas and retromolar trigone area.*

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The patient in all subsequent controls demonstrated a worsening of the systemic and buccal situation with exacerbation of linear erythema in the maxillary groove bottom; Enlargement of occipital, mastoid, parotid, submaxillary, jugulocarotid ganglionic groups. Likewise, the patient reports that he had two episodes of loss of vision of 15 seconds duration, with a period of one hour between both episodes, in which his vision only distinguished a completely white field and intermittent black spots, without being able to distinguish any type of object around it.

**Figure 18-19:** Cutaneous Rash due to hypersensitivity in abdomen, thorax and back skin.

The presence of Kaposi’s sarcoma can be seen in the back.
The patient also presents multiple erythemas of hypersensitivity in abdominal, thorax and back skin (Figure 18). In turn, multiple erythematous-violaceous macules on the back are distinguished, of circular shape, of various sizes, but without passing the centimeter in diameter compatible with Kaposi's sarcoma (Figure 19). Refer to dry mouth, swelling of the upper lip (Figure 20) and vomiting when eating any food or drink. Labial cheilitis is observed (Figure 21) and Kaposi's sarcoma at the bottom of the vestibular sulcus (Figure 22).

**Figure 20 and 21**: Oral dryness with angular cheilitis.

**Figure 22**: Kaposi’s sarcoma in upper anterior vestibular gingiva.
To date, the patient is under medical, infectious and odontological treatment in a multidisciplinary way for HIV/AIDS, and all the infectious overgrouped pathologies and systemic manifestations of the disease.

Discussion

There are oral manifestations present in HIV positive children, some of them as the parotid involvement due to increase in size; canker sores; cervical adenopathies, which, together with pseudomembranous candidiasis, are one of the most common lesions [28].

Kaposi’s Sarcoma is not as relevant in infected children compared to the prevalence of the adult population, which, according to Ceballos., et al. is 2.27% [9,14,29]. It has been diagnosed for many years. Through the anatomopathological analysis of the lesions, however, since the discovery of VHH8 as the probable agent responsible for this neoplasm, a series of techniques are developed that allow for population studies, as well as diagnose the presence of the virus before lesions appear [21,23,30-34].

Clinically, lesions of Kaposi’s sarcoma begin in the form of erythematous-violaceous macules that progress to plaques and nodules. The latter can ulcerate and bleed. The lesions can vary from small sizes to several centimeters in diameter. In their evolution they can remain stable for months, even years or grow rapidly and spread. Up to ten different variants have been described in the literature: macular, plaque, nodule, lymphadenopathic, exophytic, infiltrative, ecchymotic, telangiectatic, keloidal and cavernous or lymphangiomatous [26].

Now, we have to take into account that our situation is a 17-year-old patient who, due to his story, contagion of HIV was due to sexual intercourse. Taking into account the definition of quality of life, adolescents diagnosed by vertical transmission and horizontal transmission route, relate the term with, family support, mood and way of coping with life, which is related to our situation, where it presents a very important family conflict, a psychological profile of abandonment and without family support. Cardona-Arias., et al. [35] states that quality of life can be defined as the way in which individuals perceive their life; the place they occupy in the cultural context of the value system in which they live; the relationship with its objectives, expectations, norms, criteria and concerns, all related to daily activities, physical health, psychological state, social relationships, environmental factors and personal beliefs.

Thus, different studies report the influence of different sociodemographic and clinical variables among which is: Sex, educational level, sociodemographic level, family support, time of diagnosis and infection status. In the results found it was possible to demonstrate that there is a direct relationship between the diagnosis and the perceived social support, mental health and/or physical health of the patient. During the process of hospitalization, the mother asked to remove the adolescent from the hospital, so that, in view of the worsening of the clinical picture, the social service had to intervene to force the hospitalization of the same again.

However, according to Lamotte [36] there are different clinical phases among which are: Acute retroviral infection, which corresponds to the arrival of the virus to the patient and is characterized from the clinical point of view by two situations: Asymptomatic or Synthetic, where the clinical picture shows very varied symptoms such as: Fever, pharyngitis, weight loss, nausea, diarrhea, etc., so it is important to clarify that like all physical symptoms, should be explored from the biological level to rule out possible complications associated with HIV. In our situation, complications were found with syphilis, HPV, EBV, Hepatitis A, Toxoplasmosis and CMV.

On the other hand and taking into account the research conducted by Moya., et al. [37], antiretroviral therapies have contributed to control the development of HIV/AIDS and to significantly improve the quality of the diagnosed individuals, reducing morbidity and mortality. However, its therapeutic efficacy depends to a great extent on adherence to treatment, since non-adherence results in the development of different virus subtypes, resistant to antiretroviral drugs. The mother had requested the externalization of her son, and the same was missing from the different citations of controls, studies and treatments.

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In adolescents with HIV, mental health is associated with a state of tranquility, since they do not think about problems and additionally relate it to the way of coping with the different circumstances of life. Therefore, the importance of psychological intervention during all stages of the disease is evident, impacting not only on health, but also on the quality of life of people with HIV. García-Navarro, et al. [38] states that the adolescent's form of coping with HIV depends on whether he or she was infected with HIV through horizontal or vertical transmission, stating that in adolescents with HIV through vertical transmission they present problems in some cases. adherence to treatment so they need the continuous supervision of a caregiver or family member and therefore adopt a style of coping with passive illness, in addition to reflecting guilt on their parents, because they were not directly responsible for what it is happening to them and therefore they could be raised under an overprotective model, which could be understood as a form of coping that parents have made about their diagnosis and that of their children. While young people with horizontal transmission have a type of active coping in which subjects seek specific actions to solve their problems as a measure of overprotection against the risk factor that they showed when having unprotected sex. In our case it is not fulfilled in this way, since the social, cultural and economic context that the patient is in, shows a state of abandonment to his health, having the medical-odontological-psychiatric staff explained to the family the terminal situation in case of not initiating or completing the treatment protocols against HIV and the over-aggregated tables.

**Conclusion**

It is important to highlight the importance of early dental diagnosis in the different infectious-contagious diseases, since these can often present their first signs and symptoms in the oral cavity and not in another part of the body.

It should be noted that in the face of complex conditions of infectious-contagious diseases, the treatment is multidisciplinary, with different professionals acting in a comprehensive manner to improve the patient's health.

**Bibliography**


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