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REVIEW

Oral manifestations of HIV: analysis of oropharyngeal candidiasis as an immunological marker

Manifestaciones orales del VIH: análisis de la candidiasis orofaríngea como marcador inmunológico

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ABSTRACT

Oropharyngeal candidiasis (OPC) is a highly prevalent fungal infection in immunosuppressed patients, especially those infected with human immunodeficiency virus (HIV). Candida albicans has been described as the main etiological agent, capable of changing its morphology to facilitate invasion of the oral mucosa. The onset of OP was found to be closely related to low CD4+ lymphocyte levels and was recognised as an early marker of progression to AIDS. In addition, the different clinical manifestations of OP and its higher frequency in patients not receiving effective antiretroviral therapy were analysed. The research concluded that early diagnosis, immunological monitoring, and appropriate antifungal therapy were essential for improving the quality of life of HIV-positive patients. Despite advances in antiretroviral therapy, oropharyngeal candidiasis persisted as a relevant infection, especially in resource-limited settings.

Keywords: Oropharyngeal Candidiasis; HIV; Immunosuppression; Antiretroviral Therapy; Candida Albicans.

RESUMEN

La candidiasis orofaríngea (COF) como una infección micótica de alta prevalencia en pacientes inmunosuprimidos, especialmente en aquellos infectados por el virus de la inmunodeficiencia humana (VIH). Se describió a Candida albicans como el principal agente etiológico, capaz de cambiar su morfología para facilitar la invasión de la mucosa oral. Se evidenció que la aparición de COF estuvo estrechamente relacionada con niveles bajos de linfocitos CD4+ y se reconoció como un marcador temprano de progresión hacia el SIDA. Además, se analizaron las diferentes manifestaciones clínicas de la COF y su mayor frecuencia en pacientes que no recibían tratamiento antirretroviral efectivo. La investigación concluyó que el diagnóstico precoz, el seguimiento inmunológico y una terapia antifúngica adecuada fueron fundamentales para mejorar la calidad de vida de los pacientes seropositivos. A pesar de los avances en la terapia antirretroviral, la candidiasis orofaríngea persistió como una infección relevante, especialmente en contextos de recursos limitados.

Palabras clave: Candidiasis Orofaríngea; VIH; Inmunosupresión; Terapia Antirretroviral; Candida Albicans.

INTRODUCTION

Oropharyngeal candidiasis (OPC) is one of the most common fungal infections in immunocompromised individuals, especially those infected with human immunodeficiency virus (HIV). This condition, caused mainly by Candida albicans, arises when local or systemic factors allow this fungus to transition from its commensal form to an invasive pathogen. The onset of OP in people living with HIV is not only typical but also acts as an

early clinical marker of immunological progression to acquired immunodeficiency syndrome (AIDS). Up-to-date knowledge of its clinical forms, predisposing factors, and correlation with the level of immunosuppression is essential for the diagnostic and therapeutic approach in this vulnerable population. This theoretical framework focuses on contextualizing the importance of OP in the context of HIV based on available evidence and the analysis of different scientific studies.

DEVELOPMENT

Oropharyngeal candidiasis (OPC) is a fungal infection caused mainly by yeasts of the genus Candida, with Candida albicans being the most prevalent species in the etiology of this pathology.[1] This yeast, usually commensal in the oral cavity, can become pathogenic under certain conditions such as immunosuppression, antibiotic use, malnutrition, or poor oral hygiene. Its ability to form biofilms and morphologically change from yeast to filamentous form is directly related to its invasive and pathogenic potential.[1]

In the context of human immunodeficiency virus (HIV) infection, COF is one of the most frequent and early clinical manifestations. Its appearance is closely related to the degree of immunosuppression in the patient, especially with CD4+ cell counts below 200 cells/mm^3.[2] Oral candidiasis has historically been considered a clinical marker of progression to AIDS, being one of the most common opportunistic infections in this population.[3]

According to Prieto Santa Anna et al.[4], between 75 % and 90 % of HIV-positive patients develop some episode of oral candidiasis during their disease. This high prevalence highlights the importance of clinical monitoring of oral health in people living with HIV, as it not only affects quality of life but can also serve as a sign of immune deterioration.

Oral candidiasis can manifest in various clinical forms, including pseudomembranous, erythematous, hyperplastic, and angular cheilitis, each with distinct morphological characteristics and levels of severity. The lesions, although often asymptomatic, can affect the oral mucosa, tongue, and palate and, in more advanced cases, spread to the esophagus, causing symptoms such as dysphagia or odynophagia.[5]

The prevalence of COF is significantly higher in HIV-positive patients who do not receive effective antiretroviral treatment. Kirti[6] demonstrated a strong correlation between decreased CD4+ levels and the onset of oral candidiasis, underscoring the importance of maintaining adequate immune control through antiretroviral therapy (ART).

According to the World Health Organization,[7] candidiasis remains one of the most common opportunistic infections in HIV-positive patients despite advances in ART. Even under treatment, some factors can predispose the patient, such as co-infections, antifungal resistance, or poor therapeutic adherence.

Recent studies [8], have indicated that, although prevalence has decreased with the use of ART, COF remains a significant clinical problem, especially in regions with limited access to health services or where late diagnosis of HIV is common. A recent meta-analysis [9] also reaffirms this trend, recommending early diagnosis, monitoring CD4+ counts, and tailored therapeutic strategies to reduce its impact.

Oropharyngeal candidiasis represents a relevant clinical entity in HIV-positive patients, being both a frequent oral manifestation and a valuable indicator for assessing the patient's immune status. The reviewed literature supports the need to strengthen early diagnosis and timely treatment to improve the quality of life of this vulnerable population.

CONCLUSIONS

Oropharyngeal candidiasis is a highly relevant clinical manifestation in HIV-infected patients, given its close relationship with the individual's immune status. Its high prevalence, especially in those with low CD4+ counts, positions it as a key indicator in assessing and monitoring disease progression. Despite advances in antiretroviral therapy, OPF remains a significant clinical problem, particularly in settings where access to treatment and timely diagnosis is limited. Therefore, early identification, appropriate treatment, and continuous monitoring are fundamental strategies for improving the quality of life of affected patients. The available evidence highlights the need to strengthen preventive and therapeutic measures and promote research aimed at developing more effective clinical protocols for managing this opportunistic infection.

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