

ORAL CHANGES IN CHILDREN WITH AIDS

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Abstract. Pediatric AIDS is associated with a broad spectrum of systemic complications, among which oral manifestations play a crucial diagnostic and prognostic role. This article examines the prevalence, types, and clinical relevance of oral changes observed in children with AIDS. Common conditions include candidiasis, linear gingival erythema, oral hairy leukoplakia, and herpetic lesions. These manifestations often reflect the degree of immunosuppression and may serve as early indicators of disease progression or antiretroviral therapy failure. Emphasis is placed on the need for interdisciplinary management, early diagnosis through routine oral screening, and the integration of dental care into pediatric HIV treatment protocols.

Keywords: pediatric AIDS, oral manifestations, HIV-related lesions, oral candidiasis, immunosuppression, dental care, opportunistic infections.

INTRODUCTION

Human Immunodeficiency Virus (HIV) infection in children leads to Acquired Immunodeficiency Syndrome (AIDS), a condition characterized by profound immunosuppression and multisystem involvement. The oral cavity is often one of the first sites to reflect the systemic deterioration associated with HIV, especially in pediatric patients whose immune systems are still developing. Oral lesions can affect nutrition, speech, psychological well-being, and overall quality of life, making their recognition vital for early intervention.

Children with AIDS are more prone to opportunistic infections, and due to differences in immunity and disease progression compared to adults, the pattern of oral changes may be unique. The presence, type, and severity of these lesions can provide insights into the patient's immunological status and therapeutic response, thereby supporting clinical decision-making.

MATERIALS AND METHODS

The occurrence of oral lesions often parallels the progression of AIDS and serves as a clinical marker for immunologic decline. For example, candidiasis may precede serological markers of HIV progression, making it an early warning sign. Moreover, certain lesions, such as LGE and OHL, are considered AIDS-defining conditions under WHO staging criteria for pediatric HIV [1].

RESULTS AND DISCUSSION

Management of oral manifestations requires coordinated care among pediatricians, infectious disease specialists, and dental professionals. Antiretroviral therapy (ART) plays a central role in lesion resolution; however, local antifungal or antiviral treatments are often

necessary. Preventive dental care, oral hygiene education, and nutritional support are equally important in mitigating the impact of oral diseases in HIV-positive children.

The oral manifestations observed in HIV-positive children are largely attributable to progressive immune system impairment, particularly involving CD4+ T-lymphocyte depletion and altered cytokine signaling. In pediatric patients, whose immunological defenses are still maturing, the viral load tends to be higher and immune dysregulation more pronounced than in adults. This immunopathological backdrop renders the oral mucosa highly susceptible to colonization by opportunistic fungi, viruses, and bacterial pathogens.

The mucosal epithelium, serving as a primary barrier, becomes compromised due to HIV-associated reductions in salivary immunoglobulins (especially IgA) and antimicrobial peptides such as histatins and defensins. These deficits reduce resistance to microbial invasion, allowing even low-pathogenic flora to induce overt pathology. Furthermore, impaired neutrophil and macrophage function disrupts local immune responses, promoting chronicity and recurrence of oral lesions [2].

Oral pathology in children with AIDS frequently compromises mastication, swallowing, and overall oral intake. Painful ulcerations, mucosal inflammation, or candidiasis can lead to reduced appetite and selective feeding behavior, thereby contributing to malnutrition. Moreover, recurrent infections often result in systemic catabolism and impaired nutrient absorption [3].

Longitudinal studies have established a strong correlation between chronic oral infections and growth faltering in HIV-positive pediatric populations. In resource-limited settings, this impact is magnified by food insecurity, delayed diagnosis, and limited access to therapeutic dental services. Thus, oral health should be prioritized not only for its local effects but also for its role in maintaining systemic nutritional status and supporting developmental outcomes.

Beyond their physiological consequences, oral lesions exert a considerable psychosocial burden on HIV-infected children. Painful, visible, or malodorous oral conditions can lead to embarrassment, social withdrawal, and bullying — particularly in school-aged children. Adolescents may experience self-image disturbances, further exacerbated by stigma associated with HIV.

Such psychosocial factors can hinder adherence to ART regimens and undermine overall disease management. Integrating psychological support into oral health services is therefore crucial, including age-appropriate counseling, caregiver education, and school-based awareness programs to reduce stigma and promote inclusivity [4].

Providing oral healthcare to children with AIDS involves a number of clinical and ethical complexities. These patients often present with multiple concurrent oral pathologies, delayed wound healing, and higher susceptibility to superinfections. Moreover, their general medical condition, nutritional status, and immune profile must be considered prior to any invasive dental intervention.

One of the key clinical challenges lies in the increased risk of bleeding and infection during dental procedures, especially in children with thrombocytopenia or neutropenia — conditions not uncommon in advanced HIV stages or as side effects of long-term antiretroviral therapy. Routine procedures such as tooth extractions or periodontal debridement must be preceded by hematological assessments and may require prophylactic antibiotics or adjunctive therapy.

CONCLUSION

Oral changes in children with AIDS are not merely local phenomena but reflect systemic immunosuppression and disease trajectory. Their presence necessitates early detection, multidisciplinary management, and inclusion in routine pediatric HIV care protocols. As survival rates improve with ART, maintaining oral health becomes essential for enhancing quality of life and minimizing morbidity in this vulnerable population.

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