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Case Report

A Venezuelan Refugee Child Diagnosed with Heck's Disease in a Brazilian Region with Very Low Prevalence: Case Report

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Abstract: Heck's disease, or focal epithelial hyperplasia, is a rare benign oral condition classically associated with human papillomavirus (HPV) types 13 and 32, mainly affecting children and adolescents in specific ethnic groups, particularly indigenous populations. Although cases have been reported in the Brazilian Amazon region, published reports from other Brazilian regions, especially urban centers in the Southeast, remain scarce. We report the case of an 11-year-old Venezuelan refugee boy from the Warao indigenous community who was evaluated at a pediatric dentistry service in the state of São Paulo, Brazil, presenting multiple intraoral papules and nodules. The diagnosis was established by clinicopathologic correlation and was consistent with Heck's disease. This case highlights the importance of recognizing Heck's disease in non-endemic urban settings and of including oral mucosal assessment in the care of vulnerable pediatric populations, particularly migrant and refugee children.

Keywords: Heck's Disease; Refugee Children; Pediatric Dentistry; Oral Mucosa; HPV.

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1. Introduction

A Heck´s disease, also known as multifocal epithelial hyperplasia or focal epithelial hyperplasia, is a benign, rare, contagious and usually asymptomatic oral condition. It is classically associated with human papillomavirus (HPV) types 13 and 32, mainly affecting children and young adults [1, 2]. Heck´s disease was first described in 1965 in children from the Navajo, Xavante, and Alaskan Eskimo communities [3], with a higher prevalence in females, between 5 and 17 years. However, there are also rare case reports affecting adults and elderly. Although Heck´s disease has been reported in children and adolescents from various ethnicities, the most cases correspond to the South American continent.[1] This latter is known for its extensive ethnic diversity, which may contribute to the high prevalence of Heck´s disease in these populations.

Specifically, in Brazil, Heck's disease has been detected affecting indigenous pediatric populations in the Amazon region, being considered very rare in other regions, especially in the southeast [1, 4]. Given that this condition is more frequent in younger age groups and with characteristic familial occurrence, predisposition of genetic and environmental factors cannot be disregarded [1]. Clinically, Heck´s disease presents as soft, small,

elevated, and well-circumscribed papules and nodules. In some cases, more extensive nodular lesions or rounded to ovoid, firm papules with a slightly corrugated surface may be observed. While any sites of the oral mucosa may be affected, involvement of the hard palate is uncommon; however, lesion distribution in Heck's disease is likely multifactorial, and mechanical irritation has been hypothesized as only one possible contributing factor. [1].

The etiology of Heck's disease has been associated in the literature with several predisposing factors, including ethnic background, socioeconomic and environmental conditions, as well as genetic susceptibility. Additionally, this disease has been linked to poor oral hygiene, inadequate hygiene habits, and immunosuppressed health status [1, 2]. This report describes a case of Heck's disease in a Warao indigenous refugee child residing in the state of São Paulo, Brazil, highlighting the importance of clinical recognition beyond geographic areas with historically higher prevalence.

2. Case Report

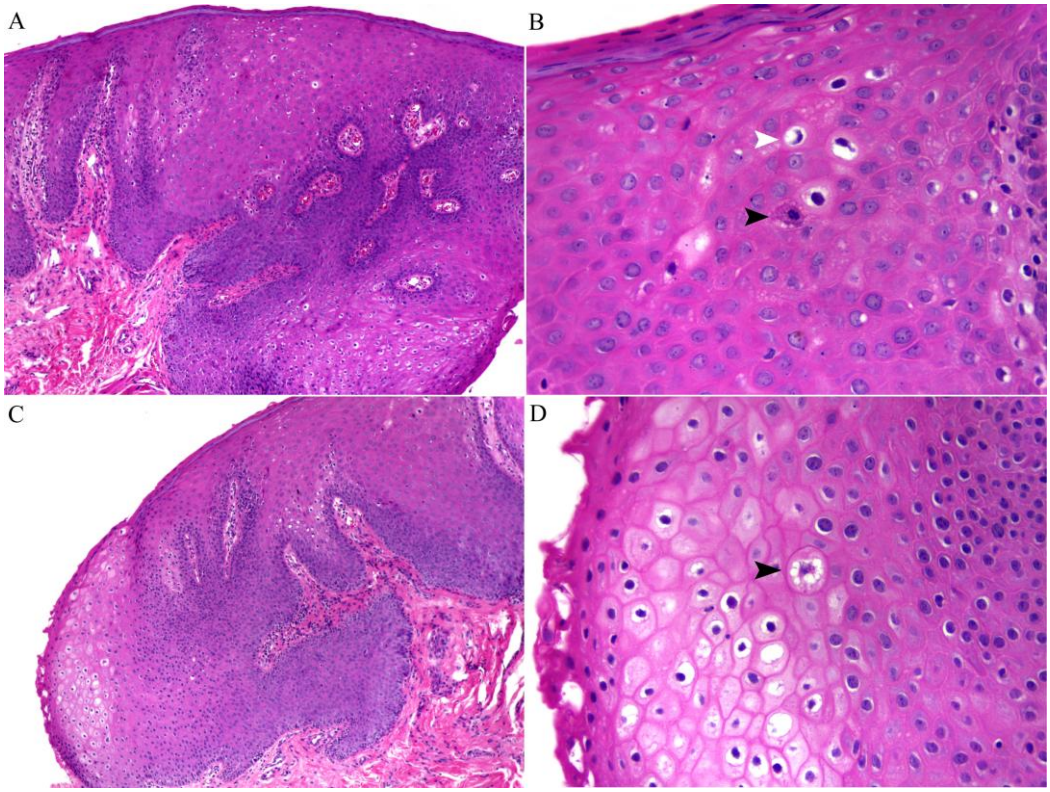
A male Venezuelan refugee child, aged 11 years, enrolled in the FLuSo project, was referred to the Pediatric Dentistry Clinic of the Ribeirão Preto School of Dentistry, FORP/USP, presenting multiple intraoral lesions. This university extension project was developed in response to the increasing migration of Venezuelan citizens to Brazil—particularly members of the Warao indigenous community—and aims to promote oral health and overall well-being among these vulnerable populations. The intraoral examination revealed multiple, asymptomatic, predominantly sessile papules and nodules located on the lips, buccal mucosa and tongue (Figure 1).

Figure 1. Multiple papules and nodules, sessile, well defined, located on the right buccal mucosa (A), upper lip (B), left buccal mucosa (C), lower lip (D), and tip of the tongue (E, F). More than 10 lesions were observed across the oral mucosa at the time of examination.

The lesions were present several months ago. The child had no noteworthy systemic changes, and his parents revealed that his siblings also had similar intraoral lesions, however, the siblings were not clinically examined within the scope of the present report; therefore, no familial case series could be established. Excisional biopsy of a lip lesion revealed a hyperplastic epithelium with the surface epithelial cells showing vacuo-

lated/koilocyte-like changes around and some mitosis-like cells (Figure 2). The clinicopathological correlation was consistent with Heck's disease diagnosis. Parents were instructed on the pathobiology of this disease, and care was provided by a multidisciplinary oral health team.

Figure 2. Hematoxylin and eosin (H&E) stained photomicrographs showing characteristic features of epithelial hyperplasia, marked acanthosis with elongated rete ridges, koilocytes (white arrowhead), associated with superficial vacuolated/koilocyte-like cells and characteristic mitosoid bodies black arrowhead) (A, x10; B, x40). In other area, notice the hyperplastic epithelium with cells exhibiting vacuolated cytoplasm around pyknotic nuclei and occasional mitosis-like change (arrowhead) (C, x10; D, x40). B and D are higher magnification of A and C, respectively.



3. Discussion

Although Heck's disease is classically associated with HPV-13 and HPV-32, no molecular typing (PCR and/or in situ hybridization) was performed in the present case; therefore, the diagnosis was established by clinicopathologic correlation, and this represents a limitation of the report. Accordingly, other HPV-mediated lesions or co-infection cannot be completely excluded at the molecular level, although they were considered less likely based on the characteristic clinical presentation and histopathologic findings, particularly the presence of mitosoid bodies. As commented above, Heck disease is a rare, asymptomatic condition that has been predominantly reported in indigenous children and adolescents and socioeconomically disadvantaged populations.

Although various treatment approaches have been described in the literature, the most widely accepted strategy is clinical observation without active intervention, as the condition tends to resolve spontaneously. During this period, patients should be guided on maintaining proper oral hygiene, which may support the regression of lesions and prevent secondary complications. Surgery excision may algo be considered in cases where the esthetic is being affected [5]. Healthcare professionals have the responsibility to provide patients with appropriate guidance. In the present case, due to the asymptomatic

nature of the lesions and the absence of functional or esthetic complaint, a conservative approach with emphasis on oral hygiene maintenance and periodic follow-up was adopted.

Follow-up was coordinated through the FLuSo university extension project in collaboration with the NGO team, jointly supporting continuity of care for Venezuelan refugee families and facilitating reassessment. Interventional treatment would be reconsidered if the lesions progressed, became symptomatic, or caused functional/esthetic impairment. Higher prevalence rates have been reported in Navajo and Inuit communities in North America, as well as among indigenous South American groups, such as Xavante; however, Heck's disease has also been observed in populations across Central America, Polynesia, and the Caribbean. These epidemiological trends suggest a strong link between this disease and factors such as poor oral hygiene, limited access to healthcare, and horizontal transmission of HPV types 13 and 32 within close communities [2,3].

Based on the literature compiled by the authors (non-systematic review), Brazilian reports of Heck's disease have been concentrated mainly in indigenous populations and historically higher-prevalence contexts, including Amazon-related settings. In this context, the estimate of approximately 24 pediatric patients mentioned in the original manuscript reflects an author-compiled count of cases identified in the reviewed literature, rather than a systematic review. In contrast, published reports in major urban centers in southeastern Brazil remain scarce. Therefore, the relevance of the present case lies in its occurrence in an urban referral setting in São Paulo state, involving a migrant/refugee child from the Venezuelan Warao indigenous community.

The differential diagnosis of Heck's disease includes squamous papilloma, condyloma acuminatum, verruca vulgaris, inflammatory papillary hyperplasia, verruciform xanthoma, and syndromic conditions such as Cowden syndrome and focal dermal hypoplasia. In the present case, these diagnoses were considered less likely because the patient showed multiple clustered lesions in a typical oral distribution, absence of relevant systemic or extraoral findings, and histopathologic features characteristic of focal epithelial hyperplasia, especially mitosoid bodies. This case also highlights the importance of including oral examination in healthcare programs for migrant and refugee children. In services linked to community and refugee support programs, practical measures such as routine oral mucosal inspection, lesion mapping and photographic documentation, inquiry about similar lesions in family members, and referral for biopsy when the diagnosis is uncertain may improve recognition of Heck's disease and help avoid unnecessary procedures.

4. Conclusion

This case reinforces that Heck's disease, although classically reported in indigenous populations from endemic regions, may also be identified in non-endemic urban settings due to migration flows. For dental professionals working with migrant and refugee children, routine oral mucosal examination, documentation of lesion distribution, and investigation of similar lesions in family members may support earlier recognition and appropriate management. These measures are especially relevant in community-based programs caring for vulnerable pediatric populations.

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Research Ethics Committee Approval: Written informed consent was obtained from the patient's legal guardian, as the participant was a minor. All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national

research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

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Conflicts of Interest: All other authors declare no conflicts of interest.

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