

CARTA CIENTÍFICO-CLÍNICA

[Translated article] Extensive White Sponge Nevus

Nevus blanco esponjoso extenso

To the Editor,

A healthy 5-month-old boy, with no relevant family history and an unremarkable pregnancy and delivery was evaluated due to the presence of whitish plaques located on the external and internal oral mucosa (fig. 1), which the parents reported as congenital. He exhibited a white-yellowish plaque affecting the external labial mucosa, and whitish, velvety plaques that did not detach with friction were observed on the lateral lingual mucosa and buccal mucosa. No other abnormalities were observed in the nails, hair, skin, or mucous membranes. He also did not present with stridor either. Neither parent had similar lesions. A laryngoscopy under sedation ruled out respiratory tract involvement. A biopsy of the buccal lesions revealed the presence of an acanthotic mucosa with clear cytoplasm keratinocytes, intracellular edema, and isolated dyskeratotic cells (fig. 2).

No alterations were detected in the molecular study either. For the genetic study, the human exome was sequenced using Illumina DNA Prep with Exome v2.0 PLUS Enrichment with a total coverage of 37.5 Mb from a peripheral blood DNA sample. The Geneyx analysis software was used for tertiary test based on the following HPO phenotypes: nevus, white sponge nevus, and pachyonychia congenita. Additionally, the KRT13, KRT4, KRT6A, and KRT6B genes were specifically reviewed. Based on the clinical-histopathological findings and the absence of other associated signs, a diagnosis of white sponge nevus (WSN) was established.

WSN is a rare disease of autosomal dominant inheritance and variable penetrance and expressivity^{1,2}. Germline mutations in the keratin 4 and 13 genes have been isolated in patients with this condition. Despite this, Liu et al. conducted a molecular study on peripheral blood in 5 patients with sporadic WSN, and only 1 was found to have a mutation in 1 of these cytokeratins, as opposed to the 3 patients with familial WSN analyzed, all of whom had mutations in keratin 4 or cytokeratin 13^{3,4}.

The most common location is the buccal mucosa, followed by other parts of the oral or labial mucosa. However, it can also damage the esophagus, respiratory tract, rectum,

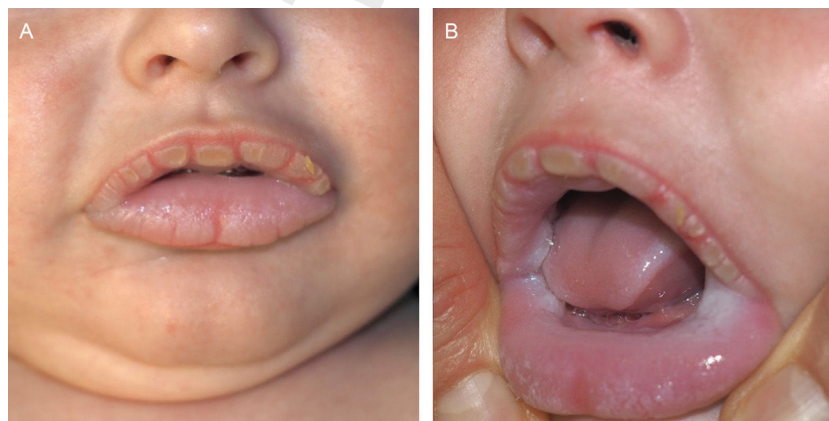


Figure 1 Hyperkeratotic white-yellowish plaques affecting the entire external labial mucosa (A). Bilateral and symmetrical whitish velvety plaques on the buccal, internal labial, and lateral lingual mucosae (B).

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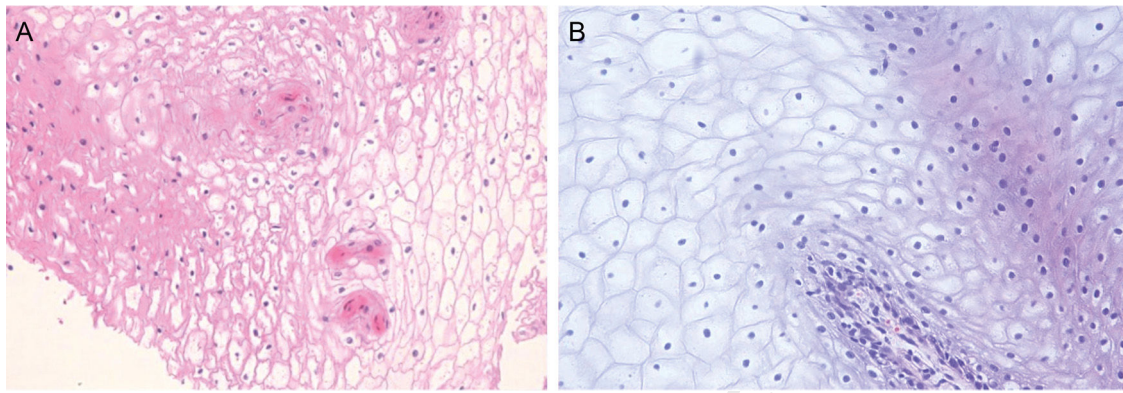


Figure 2 Biopsy of the buccal mucosa showing mainly acanthosis, intracellular edema in keratinocytes, and dyskeratosis (HE).

Table 1 Differential diagnosis of leukoplakia in childhood.

Pachyonychia congenita ⁶	Benign hereditary intraepithelial dyskeratosis ⁷	Congenital dyskeratosis ⁸
Mutations in cytokeratins: 6A, 6B, 6C, 16, and 17	Corneal dystrophy	Associated with telomeric alterations. Higher number of pathogenic mutations in the DKC1 gene, followed by RTEL1 and TERT Predominantly in males
Palmoplantar keratoderma	Whitish lesions on the bulbar conjunctiva and oral mucosa	Reticulated hyperpigmentation (possible hypopigmentation, atrophy, poikiloderma) Nail dystrophy Leukoplakia Involvement of other organs: bone marrow, lungs, liver
Laryngeal involvement	Conjunctival hyperemia	
Subungual hyperkeratosis		
Hyperhidrosis		
Oral leukoplakia		
Epidermal cysts or multiple steatocystomas		

45 or genitals. Clinically, it shows as thickened, whitish, bilat-
46 eral, and symmetrical plaques with a velvety surface that
47 do not disappear with friction^{2,5}. Histopathologically, it is
48 characterized by the presence of acanthosis, hyperparak-
49 eratosis, vacuolization of keratinocytes in the suprabasal
50 layers, and occasionally perinuclear eosinophilic deposits of
51 cytokeratin tonofilaments.

52 Although WSN often develops in early childhood, with
53 a clinical diagnosis, it can also be detected in adults,
54 for whom histopathological tests are advised to rule
55 out the presence of any other possible etiologies¹. In
56 children, candidiasis should be ruled out and differentiat-
57 ed from other entities such as pachyonychia congenita,
58 benign hereditary intraepithelial dyskeratosis, and con-
59 genital dyskeratosis (Table 1). If WSN is suspected in
60 adulthood, the differential diagnosis should include lichen
61 planus, squamous cell carcinoma, linea alba, frictional
62 leukoplakia, Darier disease, lupus erythematosus, or sec-
63 ondary syphilis^{1,2}.

64 Multiple treatments with variable effectiveness for WSN
65 have been described, such as topical or oral tetracyclines,
66 surgery, CO₂ laser, beta-carotenes, chlorhexidine rinses, and
67 others. The therapeutic goal is primarily aesthetic since it
68 is a benign and asymptomatic condition^{2,3}.

In conclusion, a sporadic WSN with extensive involvement
of the oral mucosa has been described. Notably, there was
significant involvement of the external labial mucosa, which
is uncommon for this entity.

Conflicts of interest

None declared.

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