A Bilateral Whitish Lesion on the Mucosa of the Cheek

An 8-year-old girl with no medical history presented with a bilateral whitish lesion on the mucosa of the cheek, evident since early childhood. There was no relevant family history, and her parents had not presented similar lesions. They reported a progressive growth of the lesion in the last months, for which she had been evaluated by maxillofacial surgery, the lesion being oriented as a frictional keratosis. However, the use of occlusal splint was not associated with any improvement. She was otherwise asymptomatic. Physical examination revealed a bilateral, whitish, well-demarcated cheek mucosal plaque, which partially coincided with the dental occlusion line. The lesion did not detach with scratching (**Figure 1**). No other alterations were observed in the oral cavity or in the systematic physical examination.

A biopsy of the lesion was performed. Histologic study showed parakeratotic hyperkeratosis, acanthosis, intracellular edema in the stratum spinosum, and perinuclear eosinophilic condensation (**Figure 2**). No mitosis or dysplasia was observed. With these findings, the diagnosis of white sponge nevus was established. Mutational profile for the *KRT4/KRT13* genes was not performed. She is currently asymptomatic, without treatment, and undergoing periodic dermatologic check-ups.

Oral white lesions can be classified according to those that are detached by scratching (necrotic) and those that are not (keratosic). The differential diagnosis of the latter includes entities such as frictional keratosis, lichen planus, hyperplastic candidiasis, or white sponge nevus.

White sponge nevus of Cannon is an infrequent hereditary disease of autosomal-dominant transmission and variable expressivity, with a penetrance of up to 85%.[1] It has been associated with mutations in the keratin genes *KRT4* and *KRT13*.[2] No racial or sexual predilection has been demonstrated, and it usually presents in early childhood. Clinically, it is characterized by bilateral white plaques on the cheek mucosa, although it can affect the airway, digestive tract, and the perineal and genital region. It is a lesion of excellent prognosis with no tendency to malignization. It does not require treatment, although topical tetracyclines and retinoids can be applied.[3]

Although white sponge nevus is an infrequent diagnostic, it is important to consider it in the differential of white keratotic lesions of the oral mucosa.[4] The confluence of the dental occlusion line with the lesion and the bilateral presentation can be false guiding signs, as in the case presented here. A family history of similar lesions, which is not always present, may contribute to the diagnostic orientation. ■

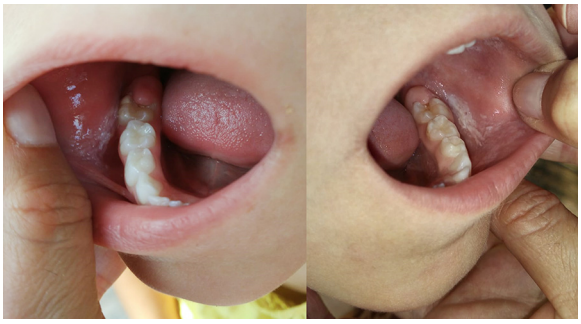

Figure 1. Clinical photograph of the patient, showing bilateral, whitish, well-demarcated cheek mucosal plaques, which partially coincided with the mucosal surface of the dental occlusion line.

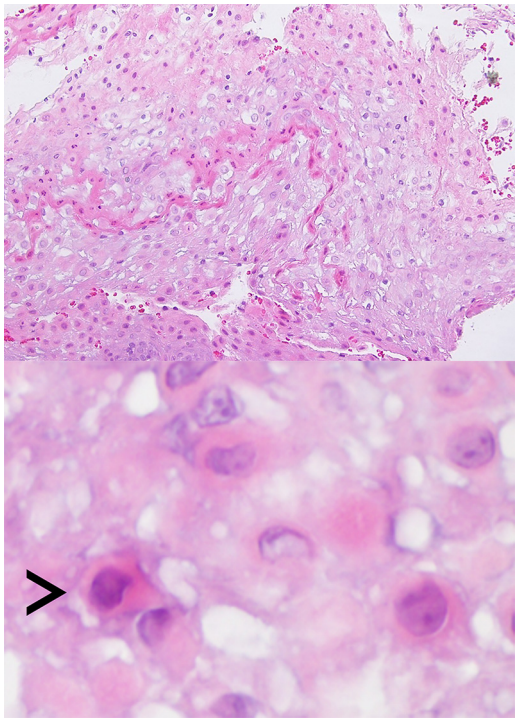

Figure 2. Histologic study of the lesion. *Top*, Cytoplasmic vacuolization of the stratum spinosum. *Bottom*, Perinuclear eosinophilic condensation (*arrow*), the most distinctive finding of this entity.

The authors declare no conflicts of interest.

J Pediatr 2022;250:105-7.

https://doi.org/10.1016/j.jpeds.2022.08.003

Javier Arredondo Montero, MD*
Pediatric Surgery Department
Hospital Universitario de Navarra
Pamplona, Spain
School of Medicine
University of Navarra
Pamplona, Spain

Mónica Bronte Anaut, MD
Pathology Department
Hospital Universitario de Navarra
Pamplona, Spain

Giuseppa Antona, MD
Pediatric Surgery Department
Hospital Universitario de Navarra
Pamplona, Spain

Diego Mauricio Peñafiel-Freire, MD
Pediatrics Department
Hospital Universitario de Navarra
Pamplona, Spain

María Pilar Fernández Seara, MD
Yerani Ruiz de Azúa, MD
Rosa Guarch Troyas, MD, PhD
Pathology Department
Hospital Universitario de Navarra
Pamplona, Spain

*Contributed equally.

References

1. Sobhan M, Alirezaei P, Farshchian M, Eshghi G, Ghasemi Basir HR, Khezrian L. White sponge nevus: report of a case and review of the literature. Acta Med Iran 2017;55:533-5.
2. Zhang J, Quan J, Ren Y, Chen M, Yang J, Zhang X. Keratin 4 regulates the development of human white sponge nevus. J Oral Pathol Med 2018;47:598-605. https://doi.org/10.1111/jop.12728
3. Amores-Martín E, Melé-Ninot G, Del Alcázar Viladomiu E, Fernández-Figueras MT. Successful treatment of white sponge nevus with oral doxycycline: a case report and review of the literature. Actas Dermosifiliogr (Engl Ed) 2021;112:463-6. https://doi.org/10.1016/j.ad.2019.10.009 [In English and Spanish].
4. Bezerra KT, Leite TC, Roza ALOC, Araújo R, Israel MS, Canedo NHS, et al. White sponge nevus: a condition not always clinically suspected. J Cutan Pathol 2020;47:22-6. https://doi.org/10.1111/cup.13581

Retinopathy of Megaloblastic Anemia: Treatable and Reversible

A 14-year-old girl presented with yellowish skin for 20 days; dizziness and fatigability for 10 days; limb tingling and numbness for 7 days; fever, chills, and vomiting for 5 days; and intermittent, painless blurry vision bilaterally for 4 days. There were no other symptoms, and there was no history of blood transfusion of dyscrasia. She consumed a vegetarian diet.

On examination, she had conjunctival pallor, scleral icterus, atrophy of tongue papillae, and hyperpigmentation of knuckles and dorsal feet. She had a systolic flow murmur at the left parasternal area, moderate hepatomegaly, and mild splenomegaly. She had decreased vibration sense in all 4 limbs, but the rest of her neurologic examination was normal. The best-corrected visual acuity was 6/6 (right) and 6/9 (left) with normal perimetry. Pupillary responses and intraocular pressure were normal. Fundus examination revealed bilateral multiple Roth spots, splinter and dot blot hemorrhages, subinternal limiting membrane macular hemorrhage, characterized by fine stria on the surface of the hemorrhage, and glistening light reflex, mild venous dilation, and a normal disc (**Figure**, A and B).

Investigations revealed macrocytic anemia with hemoglobin of 2.3 g/dL (12-15), mean corpuscular volume of 112.8 fL (80-100) with the presence of macrocytes and macro-ovalocytes in the peripheral smear, low total leukocyte count of 2.3 $\times$ 10^9/L (4.5-11.0), and low platelet count of 115 $\times$ 10^3/μL (150-450). Liver function tests revealed unconjugated hyperbilirubinemia of 3.39 mg/dL (0.3-1.2). She had low serum vitamin B12 level of 78 pg/mL (>200), elevated lactate dehydrogenase level of 5265 U/L (100-190), and elevated homocysteine level of 55 μmol/L (<12). Coagulation, renal, and thyroid function tests were normal.

For Roth spots and hemorrhages on fundus examination, the differential diagnosis usually includes bacterial endocarditis, acute leukemia, ocular or head trauma, blood dyscrasias, postcorneal/refractive surgery, autoimmune hemolytic anemia, thrombocytopenia, vasculitis, hypertension, and diabetes.

Our case is an adolescent vegetarian girl who developed severe manifestations of vitamin B12 deficiency. Retinopathy in megaloblastic anemia manifests with cotton wool spots, retinal edema, venous dilatation and tortuosity, and retinal hemorrhages but bilateral Roth spots and subinternal limiting membrane macular hemorrhages are rare.[1,2] The fundus picture may mimic that of diabetes and hypertensive retinopathy. The condition is usually asymptomatic, but the patient may have intermittent blurring of vision and reduced field of vision. Anoxia, angiospasm, venous stasis, and increased capillary permeability are attributed to the pathogenesis of anemic retinopathy.[3]

The girl was transfused with 2 units of packed red blood cells and treated with vitamin B12 and folate supplements. She had significant clinical improvement. Repeat fundus examination a month later revealed minimal residual findings (**Figure**, C and D). Retinopathy of nutritional megaloblastic anemia is reversible with treatment and prevents permanent vision loss. ■