

# Beaded Papules Along the Eyelid Margins

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A 21-year-old woman (born of consanguineous parents) presented with asymptomatic, waxy, white, beaded papules along the eyelid margins of 6 years' duration. Physical examination revealed moniliform blepharosis over the eyelid margins, multiple linear and pocklike scars on the face and arm, pebbling on the lower lip and oropharynx, and hoarseness that was present since early infancy. Medical history was unremarkable for systemic disorders

and routine laboratory tests were within reference range. Pathological examination of a papule on the lower lip mucosae revealed perivascular deposition of eosinophilic homogeneous material.

## What's the diagnosis?

- a. amyloidosis
- b. erythropoietic protoporphyria
- c. lipoid proteinosis
- d. non-X histiocytosis (xanthomatosis)
- e. papular mucinosis (scleromyxedema)

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The authors report no conflict of interest.

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## The Diagnosis: Lipoid Proteinosis

**L**ipoid proteinosis (LP), also known as hyalinosis cutis et mucosae or Urbach-Wiethe disease, is a rare autosomal-recessive disorder. It is characterized by deposition of hyalinelike material in multiple organs including the skin, oral mucosa, larynx, and brain. The underlying defect is mutations in the extracellular matrix protein 1 gene, *ECM1*, which binds to various proteins (eg, perlecan, fibulins, matrix metalloproteinase 9) and plays a role in angiogenesis and epidermal differentiation.<sup>1,4</sup>

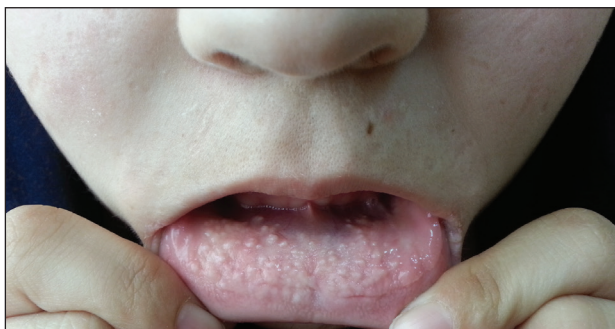
The clinical spectrum of LP is primarily related to respiratory, skin, and neurologic manifestations, but any organ involvement may be seen. A childhood-onset weak cry or hoarseness usually is the first clinical sign of LP due to infiltration of the laryngeal mucosa.<sup>3,6</sup> A thickened frenulum, which manifests as restricted tongue movements, is another reliable clinical sign of LP.<sup>7</sup> In addition, yellow-white submucous infiltrates on other mucosal surfaces (eg, pharynx, tongue, soft palate, esophagus) (Figure 1), occlusion of the salivary ducts (recurrent parotitis), dental anomalies, and dental caries (Figure 2) also may be seen.<sup>5,7</sup>

Related to cutaneous manifestations of LP, lesions that present in early childhood are characterized by vesicles, erosions, and hemorrhagic crusts that result in pocklike (Figure 3), linear, or cribriform scarring on the face and extremities, either following trauma or spontaneously.<sup>6,7</sup> Second-stage skin lesions are beaded papules (moniliform blepharosis) along the eyelid margins; generalized cutaneous thickening with yellowish discoloration; and waxy papules, hyperkeratosis, or verrucous plaques/nodules on the hands, forehead, axillae, scrotum, elbows, or knees.<sup>1,5</sup>

Neurological manifestations usually occur as epilepsy and psychiatric problems, which are likely due to intracranial calcification within the amygdala or the temporal lobe. Bean-shaped calcification in the temporal lobe is seen as a pathognomonic radiographic finding.<sup>7</sup> Other manifestations including drusenlike fundal lesions, corneal deposits with diminution of vision, and visceral involvement may be seen.<sup>7,8</sup>



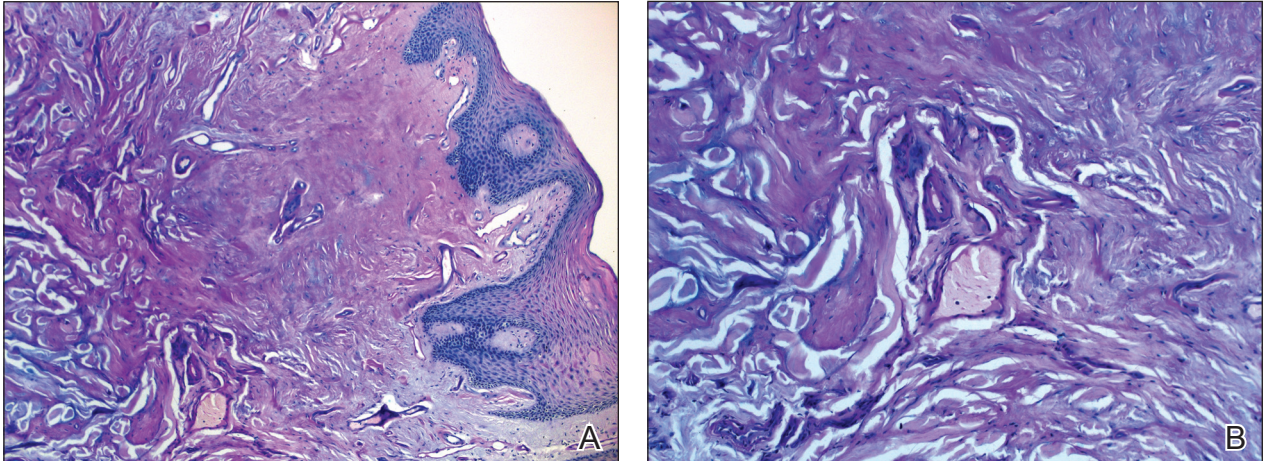
**Figure 2.** Yellow-white mucosal infiltrates and dental caries.



**Figure 1.** Pebbling in lower lip mucosa and acneiform pocklike scars on the upper lip and cheek.



**Figure 3.** Multiple linear and pocklike scars on the face.



**Figure 4.** Histopathologic examination of a papule on the lower lip mucosae showed perivascular deposition of eosinophilic homogeneous material (A and B)(both periodic acid–Schiff, original magnifications  $\times 100$  and  $\times 200$ ).

Histologically, deposition of eosinophilic homogeneous material is seen around the blood vessels and sweat glands as well as in the dermis and dermoepidermal junction (Figure 4).<sup>1,5</sup> Although most patients with LP have a slowly progressive benign course that stabilizes in early adult life, some morbidities and complications may occur (eg, rarely upper respiratory tract involvement can progress and require tracheostomy). There presently is no cure for LP, but some drugs (eg, oral dimethyl sulfoxide, tretinoin, acitretin, penicillamine) and laser ablation/dermabrasion of papules are helpful in some cases.<sup>1,7</sup>

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