Painless Nodule on the Lower Eyelid

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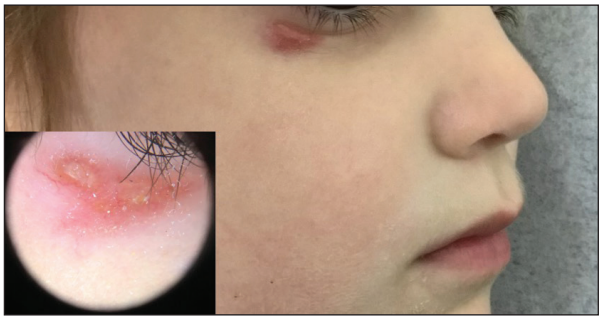

A 4-year-old girl presented to the dermatology clinic with a painless, red to golden-yellowish nodule on the right lower eyelid of 4 months' duration. The patient had no history of skin disease and was otherwise healthy. Physical examination revealed a single 1-cm, soft, erythematous and yellowish plaque on the right lower eyelid that was subtly fluctuant on palpation. She had no associated systemic symptoms or lymphadenopathy. A punch biopsy of the lesion was performed.

WHAT'S YOUR **DIAGNOSIS?**

a. atypical mycobacterial infection
b. idiopathic facial aseptic granuloma
c. periocular juvenile xanthogranuloma
d. pilomatricoma
e. xanthoma

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THE **DIAGNOSIS**:
Idiopathic Facial Aseptic Granuloma

Histopathology showed a ruptured follicle, perifollicular granulomatous inflammation, and admixed multinucleated giant cells in the superficial dermis. The deeper tissue exhibited edema, histiocytic/granulomatous inflammation forming ill-defined loose granulomas, and a single neutrophilic microabscess (Figure). Stains for periodic acid-Schiff with diastase and acid-fast bacillus were negative for microorganisms. The clinical examination and pathology findings supported a diagnosis of idiopathic facial aseptic granuloma (IFAG).

First reported in 1999, IFAG was described using the French term *pyodermite froide du visage*, which translates to "cold pyoderma of the face"; however, it was renamed to represent its granulomatous characteristics and noninfectious etiology.[1] The pathogenesis of IFAG is unknown, but the leading hypothesis is that it may be a type of childhood granulomatous rosacea, given its association with relapsing chalazions, papulopustular eruptions on the face, and facial flushing.[2] Other hypotheses are that IFAG is idiopathic or a granulomatous response to an insect bite, minor trauma, or embryologic remnant.[3]

A rare condition arising in early childhood, IFAG manifests as a single or multiple, painless, erythematous or violaceous nodule(s) on the face, most often on the cheeks or eyelids.[4] A thorough history and clinical examination often suffice for diagnosis. Dermoscopy may reveal white perifollicular halos and follicular plugs on an erythematous base with linear vessels.[4] If diagnostic tests are performed, there are notable characteristic findings: ultrasonography often shows a well-circumscribed, hypoechoic, ovoid dermal lesion without calcifications. Bacterial, fungal, and mycobacterial cultures commonly

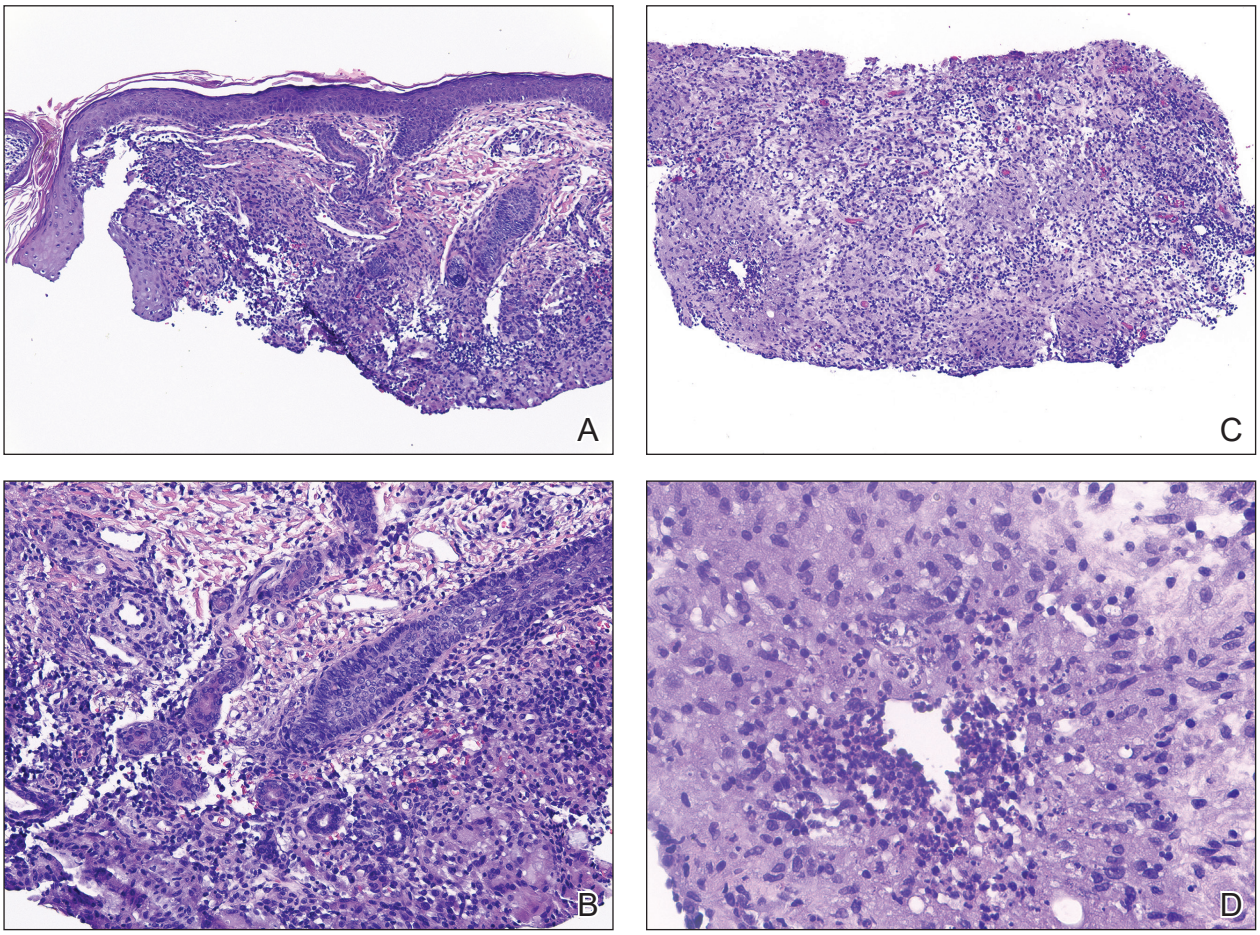

FIGURE. A, The upper portion of the punch biopsy demonstrated a ruptured follicle, dense perifollicular, and dermal inflammation (H&E, original magnification ×10). B, Perifollicular granulomas with multinucleated giant cells (H&E, original magnification ×20). C, A deeper portion of the punch biopsy showed several loose epithelioid granulomas in an edematous stroma and admixed dense lymphocyte inflammation (H&E, original magnification ×10). D, Histiocytic granuloma with neutrophilic microabscess (H&E, original magnification ×40).

are negative.[4] On biopsy, histopathology may reveal granulomatous inflammation in the superficial and deep dermis, multinucleated giant cells, and surrounding lymphocytic, neutrophilic, and eosinophilic infiltration with no calcium deposits.[3,5,6] Histopathology findings for IFAG and rosacea lesions are similar; both may demonstrate folliculitis, perifollicular granulomas, and admixed lymphohistiocytic inflammation.[7]

Differentiating IFAG from other dermatologic lesions can be challenging, as the differential includes benign neoplasms (eg, dermoid cyst, chalazion, pilomatricoma, xanthoma, xanthogranuloma[2]) and infectious etiologies such as bacterial pyoderma and mycobacterial, fungal, and parasitic infections (eg, cutaneous leishmaniasis). Pilomatricomas, although often seen on the face or extremities in young girls, more often are well circumscribed and located in the dermis. Ultrasonography of a pilomatricoma classically shows variable foci of calcification. Xanthoma and xanthogranuloma also were considered in our case since the lesion was subtly yellowish on examination. Similar to IFAG, these conditions may manifest as single or multiple lesions. Abnormalities in the patient's blood lipid panel or family history may be needed to diagnose xanthoma. Biopsy of a juvenile xanthogranuloma would exhibit a dense dermal nodular proliferation of histiocytic cells with a smaller number of admixed lymphocytes, neutrophils, and eosinophils, in contrast to the multiple smaller loose epithelioid granulomas seen in IFAG. Additional diagnoses in the differential for IFAG include pyogenic granuloma, Spitz nevus, nodulocystic infantile acne, granulomatous rosacea, and hemangioma.[1,3,9] In particular, granulomatous rosacea is challenging to differentiate from IFAG given the overlapping clinical findings. Multiple lesions, the presence of papules and pustules, and associated rosacea symptoms such as flushing suggest a diagnosis of granulomatous rosacea over IFAG.[2]

The prognosis for IFAG is excellent; most lesions self-resolve without treatment or procedural intervention within 1 year without scarring or relapse.[3] Topical and oral antibiotic treatments such as metronidazole 0.75% gel or cream, oral erythromycin, oral clarithromycin, and doxycycline (in patients older than 8 years) have been used to treat IFAG with variable clinic responses.[2,3,6,8] Persistent IFAG has been treated with surgical excision.[3] Our patient was treated with a combination of gentamicin ointment 0.3% and tacrolimus ointment 0.3% and experienced approximately 50% improvement in the first month of treatment.

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