Osteoma Cutis

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Osteoma Cutis

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History of Present Illness: The patient presents with a five-year history of a progressively worsening facial rash. The rash began with a few acneiform papules of the left infraorbital skin and progressed to monomorphic, yellow papules of the cheeks and chin. The patient was prescribed tretinoin 0.05% cream and discontinued use due to irritation. The patient completed 10 microdermabrasion sessions with minimal improvement.

Medical History/Surgical History: Acne, rosacea, keratoconjunctivitis sicca, cheilitis, tonsillectomy

Medications: Hypromellose ophthalmic 0.3% gel, loteprednol etabonate ophthalmic 0.5% suspension, carmellose sodium 5 mg/glycerin 9 mg ophthalmic drops, conjugated estrogens/medroxyprogesterone acetate, cyclosporine ophthalmic emulsion 0.05% drops, polyethylene glycol 400-0.4%/propylene glycol 0.3% ophthalmic solution, lifitegrast ophthalmic 5% solution, calcium-vitamin D, evening primrose oil, vitamin E

Previous Treatments: Azelaic acid 15% gel, clindamycin/benzoyl peroxide 1.2-2.5% gel, metronidazole 1% gel, doxycycline 50 mg daily, tretinoin 0.05% cream

Current Treatment: Salicylic acid 2% wash

Physical Examination: Multiple, firm, 1-2 mm deep papules on cheeks and chin. Central facial erythema.

Laboratory Data: CBC, CMP, calcium WNL. Antinuclear Ab screen negative.

Biopsy: *Advanced Dermatology Associates, LTD* (AD17-03168, 03/23/2017) Left lateral cheek: "Well-defined focus of mature trabecular bone containing lacunae of osteocytes with calcification situated within the dermis."

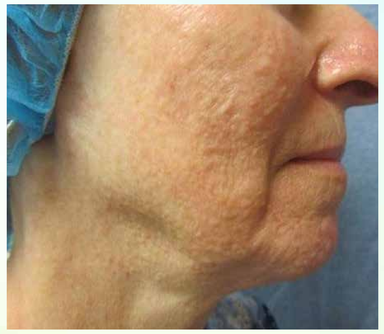

Figure 1: Right cheek and mandible. Numerous, firm, 1-2 mm dermal papules.

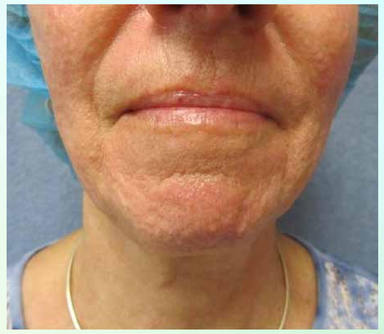

Figure 2: Bilateral cheeks and Chin. Numerous, firm, 1-2 mm dermal papules.

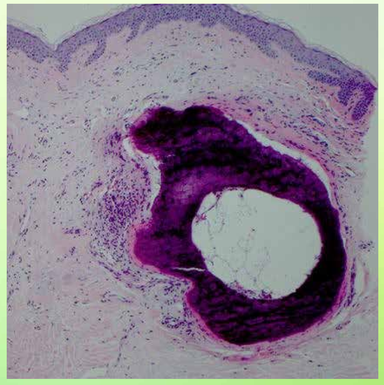

Figure 3: H&E, Left cheek (10x): Well-defined focus of mature trabecular bone containing lacunae of osteocytes with calcification situated within the dermis.

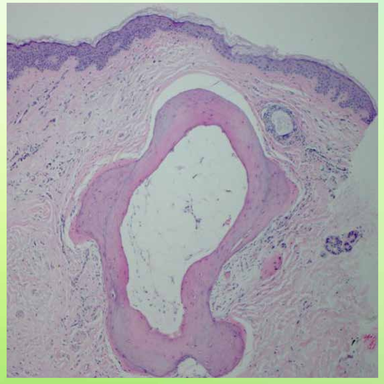

Figure 4: H&E, Left cheek (10x): Decalcified, dermal focus of mature trabecular bone containing lacunae of osteocytes.

Diagnosis: Osteoma Cutis

Osteoma cutis (OC) is a rare, benign condition of cutaneous bone formation and was first described by Wilekens in 1858. A variant of osteoma cutis, known as multiple miliary osteoma cutis (MMOC), was later described by Virchow in 1864. Primary OC results from de novo bone formation in the skin while secondary OC occurs from inflammatory, neoplastic, metabolic, traumatic, or iatrogenic causes. The MMOC variant presents as several tiny cutaneous osteomas and includes both primary and secondary forms of osteoma cutis. Syndromes associated with osteoma formation include Albright's hereditary osteodystrophy, fibrodysplasia ossificans progressiva, progressive osseous heteroplasia, and plate-like osteoma cutis.

There are 102 reported cases in the literature to date of miliary osteoma cutis. A female predilection exists, but hormones are not reported to have a pathogenic role in the development of primary miliary osteoma cutis. Rarely, MMOC occurs as a delayed sequelae in patients with a history of scarring acne vulgaris. Patients whose acne was treated with minocycline or tetracycline can have osteomas with blue pigmentation.

The etiology of this condition remains unknown. The leading hypothesis suggests osteoblastic metaplasia of mesenchymal cells (i.e. fibroblast metaplasia) giving rise to these tumors. Clinically, the lesions are asymptomatic, firm, skin-colored to white, dermal papules or nodules distributed on the scalp, face, trunk, buttocks, and extremities. Osteomas can develop in acne lesions, nevi, scars, and sites of trauma. Additionally, osteomas may arise in venous stasis dermatitis, collagen disease (e.g. dermatomyositis, scleroderma), and neoplasms (e.g. pilomatricoma, basal cell carcinoma).

Diagnosis is confirmed with the histopathologic finding of bony trabeculae. Serum calcium levels, parathyroid levels, and screening for renal dysfunction should be performed to exclude derangements in calcium metabolism. Treatment includes medical management with topical tretinoin that may result in transepidermal elimination of bone. However, surgical treatments provide the best results and include punch excision, scalpel incisions with curettage, and microincision with extirpation.

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