RESIDENT’S FORUM

Multiple flesh-colored firm papules on the cheeks of an adult woman

Case report

A 68-year-old Chinese woman, without underlying disease, presented with multiple asymptomatic flesh-colored papules on her bilateral cheeks for 20 years (Figure 1). She had had a history of severe acne when she was a teenager. A physical examination revealed many scattered 2- to 3-mm firm subcutaneous papules over her bilateral cheeks and forehead. She had received antiacne topical agents and fractional resurfacing, but there was no significant improvement. Laboratory results, including complete blood count, creatinine, calcium, and intact parathyroid hormone were within normal limits. A skin biopsy was performed, and the histologic examination showed multiple small pieces of bone with or without fatty marrow in the dermis (Figure 2). The cortex consisted of concentric layers of compact bone tissue with multiple lacunae, which was reminiscent of the Haversian system.

The radiographs of the bilateral cheeks were taken (Figure 3). The image was performed along a tangential axis to prevent them from being superimposed on much thicker facial bones. Multiple radiopacities located not only in the superficial area but also in the deeper area were clearly seen in the image. These calcified nodules on the radiographs were clinically consistent with the patient’s facial firm nodules. Of interest, some radiopacities showed ring-like features (arrow) with central dark and peripheral accentuation, which corresponded to fatty marrow in histology.

Figure 1 Multiple asymptomatic flesh-colored papules on bilateral cheeks.

Figure 2 Multiple small pieces of bone with or without fatty marrow in the dermis. The cortex consisted of concentric layers of compact bone tissue with multiple lacunae, which was reminiscent of the Haversian system (H&E, original magnification 100×).

Figure 3 Multiple radiopacities located in the superficial and deeper areas of the formal skin. Ring-like features (arrow).
Diagnosis

Multiple miliary osteomas of the face (MMOF).

Discussion

After the diagnosis was made, the patient was treated with Erbium:YAG laser to expose the osteomas in the superficial area first, then the calcified nodules were removed with curettage, which provided excellent cosmetic results.

Osteoma cutis (OC) is characterized by cutaneous ossification in the dermis or subcutis and is classified into primary or secondary forms according to the absence or presence of a preceding cutaneous lesion.1 Primary OC is often related to Albright’s hereditary osteodystrophy, which is an autosomal dominant disease, occurring as multiple widespread lesions and in patients with pseudohyoparathyroidism. Secondary OC, which is more common, develops within preexisting lesions, including pilomatrixoma, chondroid syringomas, basal cell carcinomas and pilar cysts, or within inflammatory processes, for example, acne vulgaris. MMOF is a variant of OC and was first described by Hopkins in 1928. MMOF occurs predominantly on the face of light-skinned and older adult women, but has also been reported in men and black woman. Some authors believe that MMOF is a rare disease, however, Shigehara et al reported that the condition affects as many as 36% of those older than 40 years of age.

The pathogenesis of MMOF is still in debate. The most widely accepted precipitating factors are chronic inflammatory processes, such as acne vulgaris, before the development of metaplastic ossification. However, this may be coincidental and only reflect the normal process of aging.2

The diagnosis of OC often lies in the confirmation of bone tissues in histopathology. When MMOF is suspected clinically, some image modalities are useful to demonstrate the presence of cutaneous ossification, such as radiography, ultrasound, and even computed tomography.1,2 Radiography is cheap, fast and when taken by tangential projection, multiple cutaneous osteomas can be clearly illustrated, as in our case.

Treatment of MMOF consists of surgical excision or topical application of tretinoin to induce transepidermal elimination of the osteomas.3 In recent years, many novel surgical ablative modalities have been reported, including scalpel incisions and curettage, needle microincisions and extirpation,4 and CO2 and Erbium:YAG lasers.5 In our case, we used an Erbium:YAG laser combined with curettage to remove the calcified nodules, which provided excellent cosmetic results.

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