Unusual subcutaneous sarcoidosis of the face.

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Unusual Subcutaneous Sarcoidosis of the Face

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Summary: Two unusual cases of sarcoidosis manifesting as subcutaneous masses of the face are reported: in the first, the lesion occurred at the site of an osteotomy for rhinoplasty and was the initial clinical manifestation of sarcoidosis; in the second, the skin lesion was part of a multisystemic disease. The cases were documented with CT. Sarcoidosis should be added to the differential of soft-tissue masses of the face.

Index terms: Face, neoplasms; Sarcoidosis; Face, computed tomography

Sarcoidosis is an idiopathic disorder characterized by the formation of noncaseating granulomas in various affected tissue systems. Cutaneous involvement is usually one manifestation of a generalized disease and thought to occur in 20% to 32% of cases. However, skin lesions may be the only clinical manifestation of sarcoidosis. Here we describe two unusual cases of cutaneous sarcoidosis that presented as subcutaneous masses of the face and document the computed tomographic (CT) appearance of the lesions.

Case Report

Case 1

A 38-year-old white woman presented with a slowly growing facial mass located in the right infraorbital region for 6 months. The mass did not regress with antibiotic therapy. The patient had a prior history of motor vehicle accident with nasal fracture, facial lacerations, and had undergone rhinoplasty and several revision rhinoplasties. At physical examination, the lesion appeared as a hard, mildly tender right maxillary mass measuring approximately 4–5 cm in diameter and extending to the right nasal bone at the site of rhinoplasty. The patient had also evidence of erythema nodosum, with tender swellings on her legs.

Contrast-enhanced CT (Fig. 1) revealed a subcutaneous soft-tissue mass involving the anterior portion of the face in the right maxillary area. The lesion was well defined, predominantly homogeneous, and hyperdense relative to muscle. The overlying skin and adjacent subcutaneous fat were normal. No adjacent bony involvement was identified. The paranasal sinuses were clear.

The patient underwent a partial excision of the lesion. Histopathologic evaluation revealed noncaseating granulomas suggesting sarcoidosis. Special stains for organisms were negative.

Investigation afterward revealed normal serum calcium, liver function tests, pulmonary function tests, and angiotensin-converting enzyme. CT of the chest was normal. A gallium-67 nuclear medicine scan showed abnormal increased tracer uptake in the right paratracheal region and hilar regions bilaterally, and at a lesser degree in the right supraclavicular, lower mediastinum, and posterior lung bases bilaterally.

The patient was then put on oral prednisone with marked improvement of the lesions.

Case 2

A 59-year-old black woman presented with a new onset of an enlarging mass in the right temporal area. She had a long history of sarcoidosis with granulomatous infiltration of the periorbital soft tissue bilaterally, lacrimal glands, and conjunctiva. She had also cervical, bilateral hilar, right paratracheal, mediastinal, left intramammary lymphadenopathy, and interstitial infiltration of the lungs.

Contrast-enhanced CT (Fig. 2) revealed bilateral subcutaneous soft-tissue masses on the periorbital regions extending laterally and posteriorly into the extracranial temporal soft tissue bilaterally, more pronounced on the right side. Infiltration of the lacrimal sacs gave the appearance of soft-tissue masses. The lesions were rather well defined, homogeneous, and hyperdense relative to muscle. There was thickening of the overlying skin and involvement of the adjacent subcutaneous fat. No underlying bony lesions or involvement of the postseptal portions of the orbits were noted. The paranasal sinuses were clear.

The right temporal mass was biopsied. Histopathologic evaluation revealed noncaseating granulomas consistent with sarcoidosis. Special stains for organisms were negative.

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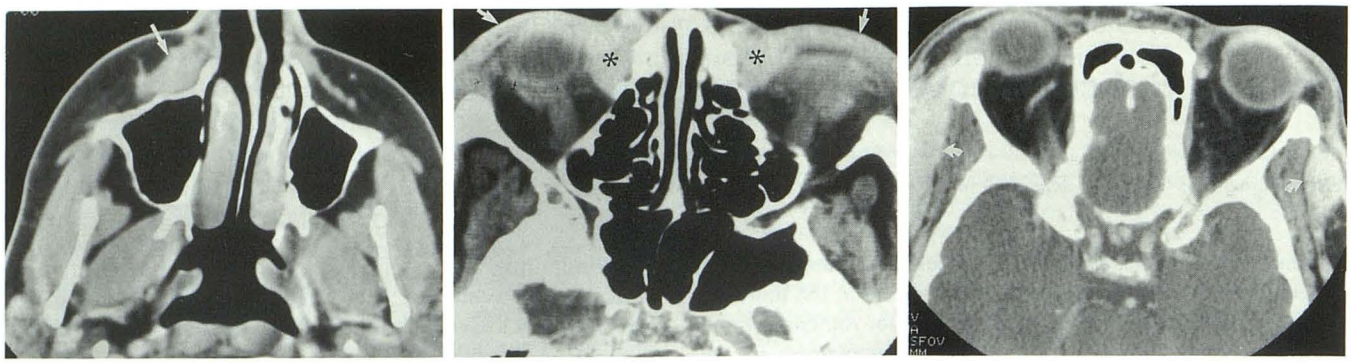

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Fig. 1. Contrast-enhanced CT in the axial plane reveals a subcutaneous soft-tissue mass involving the anterior portion of the face in the right maxillary area (*arrow*). The mass is well defined and shows predominantly homogeneous enhancement. There is no bone erosion. The overlying skin and subcutaneous fat are normal. The right maxillary sinus is clear.

Fig. 2. *A* and *B*, Contrast-enhanced CT in the axial plane reveals bilateral rather well-defined, hyperdense, and predominantly homogeneous subcutaneous soft-tissue masses in the periorbital regions (*straight arrows*). There is extension laterally and posteriorly into the extracranial temporal soft tissue bilaterally (*curved arrows*) which is more pronounced on the right side. The lacrimal sacs are encased by masses (*). The adjacent fat and overlying skin are infiltrated. The adjacent bones are intact.

Discussion

Sarcoidosis is a multisystem granulomatous disorder of unknown etiology that most commonly affects young adults. Bilateral lymphadenopathy, pulmonary infiltration, and skin or eye lesions are the most common manifestations (1). Although cutaneous involvement was once considered a prominent feature, incidence today is reported between 20% and 32% of cases (2–5).

Cutaneous sarcoidosis is more common among women. There is general tendency for most varieties of sarcoid infiltrations of the skin to occur in older patients (6, 7).

Skin manifestations of sarcoidosis are classified into two major types: specific and nonspecific (4, 8, 9). Specific lesions consist histologically of noncaseating granulomas and the diagnosis is made on biopsy. They include lupus pernio, papules, plaques, nodular infiltration, subcutaneous nodules, and infiltration of scars. Specific lesions are usually associated with chronic sarcoidosis. Nonspecific lesions do not consist of granulomas but are actually skin changes characteristically accompanying sarcoid granulomas in other areas of the body. The most common nonspecific lesion is erythema nodosum. In general, nonspecific lesions are associated with the acute phase of the disease.

The infiltration of old and new cutaneous scars, or in areas of skin chronically damaged by infection, radiation, or mechanical trauma is well recognized (6–8, 10). Patients with sarcoidosis in scars usually have systemic disease elsewhere. Infiltrated scars may be the only skin involvement or may accompany infiltration of the unscarred skin. Scar infiltration by sarcoid tissue has been thought to result from hypersensitivity reaction akin to erythema nodosum occurring at the time of sarcoid activity elsewhere in the body (7). It is more frequent in men than in women, contrary to infiltration of unscarred skin.

Subcutaneous nodules in association with erythema nodosum and bilateral hilar lymphadenopathy have been described (4, 6). Such nodules rarely occur as the sole dermatologic manifestation and usually resolve spontaneously (11).

In our first case, the sarcoid granulomas developed at the site of osteotomy for rhinoplasty with extension into the adjacent unscarred subcutaneous tissue. The occurrence of the lesions in association with erythema nodosum suggests that the scar tissue provides a favorable matrix when the sarcoidosis is active.

In our second case, the subcutaneous lesion occurred during the chronic persistent course of sarcoidosis. Its unusual presentation as a new enlarging mass in the right extracranial temporal area raised the possibility of a tumoral process. However, sarcoidosis should be entertained, knowing the wide range of appearances that can be seen with sarcoid infiltration of the skin.

The subcutaneous lesions in sarcoidosis may be present as soft-tissue masses that are well

defined, predominantly homogeneous and reveal a moderate degree of enhancement relative to muscle by x-ray CT. Involvement of the adjacent subcutaneous fat and overlying skin is variable. Other considerations include cellulitis, inflammatory masses, lymphoma, and minor salivary gland tumors. Although the CT findings are nonspecific, sarcoidosis should be included in the differential diagnosis of subcutaneous masses.

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