CASE REPORT

Symmetric multilocular epidermoid cysts on the face: An unusual presentation of a common lesion

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INTRODUCTION

An epidermoid cyst, also called epidermal cyst or epidermal inclusion cyst, is the most common cystic growth. It typically arises on hair-bearing, acne-prone areas such as the head, neck, and back and usually presents as an asymptomatic slow-growing subcutaneous nodule, ranging from a few millimeters to several centimeters in size. Most epidermoid cysts are unilocular. Here we present the unusual case of symmetric multilocular large epidermoid cysts on the face of a 53-year-old man.

CASE REPORT

A 53-year-old indigent man presented to our clinic with large nodules on his bilateral cheeks. They had been present for 6 to 12 months. The nodules were occasionally painful, but they generally were not bothersome. He denied a history of previous injections, surgery, or local trauma—except for the fact that he often squeezed the lesions and expressed a whitish material. He had a history of cystic acne as a teenager, epilepsy, paranoid schizophrenia, and an anxiety disorder. He denied a history of polyps or colorectal cancer. He smoked 1 pack of cigarettes per day. His medications included carbamazepine, phenytoin, lorazepam, and risperidone for at least 6 years. He denied a family history of similar lesions.

Clinical examination found multilocular soft subcutaneous nodules on the bilateral zygomatic cheeks measuring 6 cm on the right cheek and 4 cm on the left cheek (Fig 1). They were located exclusively on the face and caused facial deformity. For cosmesis, the patient desired removal of the nodules. An excision was done on each cheek separated 3 months apart. Elliptical excisions were made, and multiple lobules were removed as one conglomeration (Fig 2). The surgical defects were closed with 2 layers of sutures, and the closure lengths were 4.3 cm and 6.6 cm on the left and right, respectively. Histologic examination of both lesions was similar and found a multilocular cystic structure in the dermis. The cysts had stratified squamous epithelium with a thin granular layer and contained a pale-staining lamellar keratin aggregate (Fig 3) consistent with a diagnosis of epidermoid cysts.

DISCUSSION

There is no clear understanding of epidermal cyst development. Current hypotheses incriminate (1) local trauma (eg, injection) causing the invagination of epidermis into dermis; (2) aberrant embryogenesis, with ectodermal cells misplaced during cellular differentiation; (3) inflammation of the pilosebaceous unit followed by cystic dermal reaction; (4) and human papilloma virus infection of the eccrine ducts causing palmpoplantar cysts.2

Epidermoid cysts are common lesions, but those larger than 5 cm—as seen on the right cheek of our patient—are rare. These cysts are classified as giant epidermoid cysts. They may lead to cosmetic concerns or pain caused by pressure on surrounding structures and can have complications such as superinfection or, rarely, malignant transformation.3 Moreover, the presence of multiple symmetric cysts on the face, as seen in this case, is unusual. There are some hereditary syndromes that can have multiple epidermoid cysts, like Gardner, Gorlin, and Lowe syndromes.4 Gardner syndrome, a variant of
familial adenomatous polyposis, includes gastrointestinal polyps and malignancy, osteomas, and skin and soft tissue tumors (most commonly epidermoid cysts). Gardner syndrome is diagnosed at an average age of 22, and the associated epidermoid cysts occur earlier (around puberty) than ordinary cysts. That is a much earlier age of onset than seen in our patient, whose cysts erupted in the sixth decade and were not associated with gastrointestinal or osteomatosus tumors.

Gorlin syndrome and Lowe syndrome have occasionally been reported to have multiple epidermoid cysts. However, a patient with either of these syndromes would also be expected to have other systemic manifestations not seen in our patient, and such findings would appear at birth or at an early age.

Given that our patient’s symptoms did not fit those of a syndromic illness, one must explore whether there are other factors in his history that could predispose him to multiple cysts. Of note, he did have a history of epilepsy, and in patients with seizures and subcutaneous nodules, cysticercosis should be considered. Cysticercosis—uncommon in the United States and caused by the larvae of pork tapeworms—often presents with cysts in the brain and subcutaneous tissues, which can cause seizures and subcutaneous nodules, respectively. However, the uncharacteristic histologic examination findings...
and the patient’s chronic history of epilepsy make the above diagnosis less likely.

Medications, such as oral cyclosporine/tacrolimus and topical imiquimod have also been linked to the eruption of multiple epidermoid cysts.6,7 Our patient did not have a history of a transplant and was not on any of these medications. Antiepileptics and antipsychotics have both been implicated in causing drug-associated acne.8 For his epilepsy, anxiety, and schizophrenia, our patient had been on multiple antiepileptics (carbamazepine, phenytoin, lorazepam) and an antipsychotic (risperidone) for many years. Given that epidermoid cysts arise in hair-bearing, acne-prone areas and can occur after local trauma,1 our patient’s history of teenage cystic acne, possible acne mechanica from repeated facial manipulation, and long-term use of 4 potentially acne-inducing medications may have predisposed him to epidermoid cyst development. He also was a smoker, and a study that retrospectively surveyed 301 patients with facial epidermoid cysts found that men (and not women) with facial cysts were significantly more likely to be smokers compared with unaffected controls.9

The large size, location on the cheeks, and symmetry are atypical features in our patient’s presentation that have been scarcely reported thus far. Multilocular epidermoid cysts are also rare, especially on the face. Thus far, there is a single report of a facial multilocular epidermoid cyst10; they have mostly been reported on the trunk, buttocks, and extremities.10

In conclusion, we described a previously unreported presentation of a man with symmetric multilocular large epidermoid cysts on the face. Various potential etiologic factors for this unusual presentation were discussed—such as personal history of acne, repeated local trauma, antiepileptics, antipsychotics, and smoking—although a definitive explanation remains elusive.

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