

Squamous Cell Carcinoma Manifesting as Cutaneous Cystic Lesions

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Squamous cell carcinoma (SCC), a malignancy of epidermal keratinocytes, is the second most common cause of skin cancer in the United States. Our case represents an unusual variant of this common tumor. We report a clinical presentation of a case of SCC occurring as cutaneous cystic lesions on the face of an 87-year-old white woman with a medical history of multiple SCCs.

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Case Report

An 87-year-old white woman with a medical history of multiple squamous cell carcinomas (SCCs) presented to her primary dermatologist with 15 to 20 cystic nodules on her left lower cheek and submandibular region that had formed over the last 2 months. On initial examination, clusters of small, yellow-white, cystlike papules extended diagonally in a linear array from the patient's left medial cheek to the submandibular region (Figure 1). An incision biopsy from the submandibular lesion revealed multiple keratinous cysts lined by stratified squamous epithelium with some cysts surrounded by a foreign body granulomatous reaction. The presence of focal papillated epidermal hyperplasia with horned pseudocysts and solar elastosis also was reported. The initial clinical diagnosis was a cystic neoplasm possibly representing an unusual variant of syringocystadenoma. Favre-Racouchot syndrome also was included in the differential diagnosis.

The patient's medical history was notable for previously diagnosed SCC. Two years prior to presentation, the patient had 2 areas of SCC in situ excised from her right arm. Three months prior to her most recent presentation, the patient was seen for a superficial SCC on her left preauricular region by her primary dermatologist and had Mohs micrographic surgery performed at our clinic. At the time of surgery, there was no evidence of the cystic plaque and the SCC was cleared in 1 layer without complications.



Figure 1. Initial presentation of patient with multiple cystlike papules on the left lower cheek extended in a diagonal fashion toward the submandibular region. Photograph courtesy of Rita Weinstein, MD.

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The patient was sent to our institution for a second opinion on her current lesion and for treatment options. On examination, approximately 15 to 25 small white papules were noted along the inferior margin of the lateral commissure encompassing an area that measured 5.1×1.8 cm. There was no lymphadenopathy appreciated during examination. The lesion had now been present for 2.5 months. Due to the unusual nature of the lesion, a repeat biopsy was performed and showed an invasive cystic SCC, which was confirmed by an outside institution. The lesion was composed of multiple cystic spaces lined by a stratified squamous epithelium (Figure 2). Budding from the wall of some of the cysts were small islands of atypical keratinocytes that infiltrated into the adjacent tissues (Figure 3). The lesion was excised and the defect was closed utilizing advancement flaps. The patient is now 6 months postoperative and is doing well with no evidence of recurrence or new lesions.

Comment

Squamous cell carcinoma accounts for 20% of non-melanoma skin cancers, the most common cause of cancer in the United States.¹ Although less prevalent than basal cell carcinoma, the detection of SCC is profoundly important due to the considerable risk for metastasis but may prove difficult due to the various clinical and pathologic presentations encountered.¹

This patient's pathologic subtype of cystic SCC is most commonly seen in elderly patients with a predilection for the dorsal hands and lower extremities. Histologically, intradermal keratin-filled cysts and well-differentiated keratinocytes that exhibit minimal cytologic atypia are seen.² In our case, however, the cystic SCC was located on the left cheek and the keratinocytes seen were cytologically atypical and irregular in the way they collected and bud from the epidermis. Microcystic adnexal carcinoma similarly presents in elderly patients, commonly on the left side of the face as a firm indurated plaque, but can be distinguished from our case by frequent characteristic involvement of perineural structures in microcystic adnexal carcinoma.³ In our case of cystic SCC, the carcinoma surrounded arrector pili muscle bundles rather than nerve bundles, evidenced by certain histologic factors and staining techniques. The presence of perinuclear vacuoles and the lack of a perineurium stand in favor of smooth muscle; these findings were corroborated by a negative S-100 stain and a positive smooth muscle actin antibody stain. Although perineural invasion can occur in SCC, it did not occur in our patient. Most importantly, our case clinically presented as cutaneous cystic nodules.

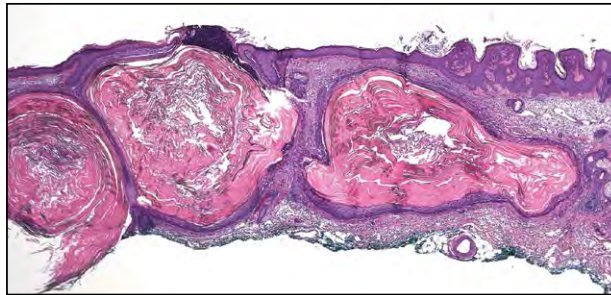


Figure 2. Histopathologic features of an unusual depiction of cystic squamous cell carcinoma are demonstrated, showing multiple follicular cysts replaced by atypical keratinocytes (H&E, original magnification ×10).

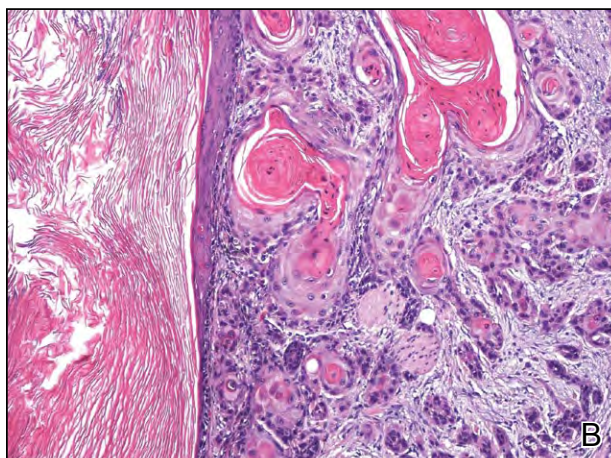
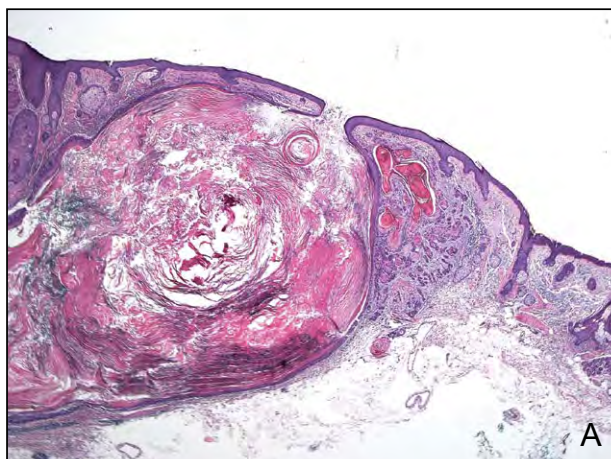


Figure 3. Histopathology demonstrated irregular collections of atypical keratinocytes budding from the under-surface of the epidermis as nests into the underlying dermis (A)(H&E, original magnification ×20). Squamous cell carcinoma was seen to surround the arrector pili muscle (B)(H&E, original magnification ×100).

There have been reports of SCC arising from single epidermal cysts via malignant transformation of the cystic epithelium. One review documents this prevalence of malignant change in sebaceous cysts ranging from 0.033% to 9.2%.⁴ A review of the English-language literature by López-Ríos et al⁵ in 1999 reported 8 cases in which this transformation was well-documented with microscopic description and photomicrographs. In each of the 8 cases, a single cyst was present for 2 to 132 months before the diagnosis of malignant transformation to SCC was made.⁵ Although this case and others represent examples of SCC arising from cysts,⁶⁻¹⁹ our case differs in that the SCC initially presented as nodular cutaneous cysts without evidence of malignant transformation.

Other unusual initial manifestations of SCC have been documented, such as presentation as subcutaneous nodules.^{20,21} Our purpose in reporting this patient is to present a well-recorded case of an atypical appearance of SCC. Because standard initial treatments of various conditions in the differential do not necessarily include surgical intervention, the prognosis of the patient with a misdiagnosed SCC can certainly be affected. Vigilance, detection, and early surgical treatment of SCC presenting atypically may prevent future complications and is necessary for optimal patient care.

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