CASE REPORTS:
CYSTIC SEBACEOUS CARCINOMA: IS IT A CONSTANT PATHOGNOMIC MARKER FOR MUIR-TORRE SYNDROME?

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Abstract

Sebaceous carcinoma (SC) is a rare and aggressive cutaneous neoplasm. It may arise in ocular or extraocular sites. Approximately 25% of all reported cases of SC are extraocular. Cystic presentation of sebaceous neoplasm is rare. So far, cystic sebaceous neoplasia (CSN) has been reported only in association with Muir-Torre syndrome (MTS). Furthermore, CSN has recently been characterized as a marker lesion of MTS. We report a case of CSN of the nose that was not associated with MTS. Mohs micrographic surgery was performed with no recurrence for 2 years. Patients with MTS need long-term follow-up to detect possible future presentation of MTS.

Introduction

Sebaceous carcinoma (SC) is a rare tumor arising from holocrine adnexal components of the skin.[1] It may arise in ocular or extraocular sites.[2] Approximately 25% of all reported cases of SC are extraocular.[3] Cystic presentation of sebaceous neoplasm is rare. Recently, cystic sebaceous neoplasia (CSN) has been characterized as a marker lesion of Muir-Torre syndrome (MTS).[4,5] So far, CSN has been seen only in patients with MTS.[4,5] One study confirmed the presence of SC in 30% of patients with MTS.[6]

Case Report

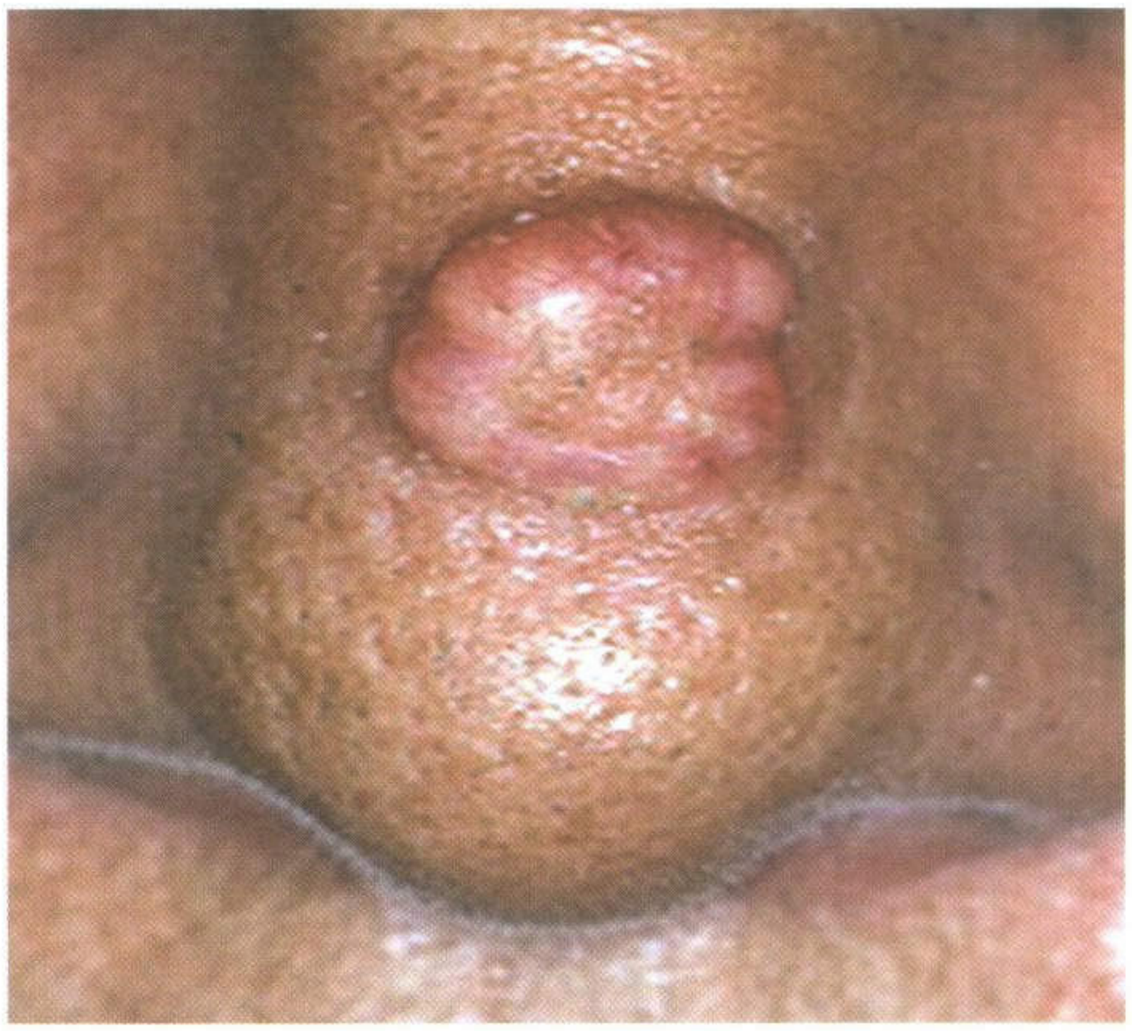
A 55-year-old woman presented with a 3-year history of a progressively enlarging asymptomatic skin lesion on her nose. The lesion was partially excised one year earlier in a different hospital. Unfortunately, there was no histopathologic confirmation and the lesion started to regrow. There was no history of other lesions on the body, radiation exposure, systemic symptoms, or other family members being affected with the same problem.

Cutaneous examination revealed a well defined round 1.5 x 1.5 cm firm skin-colored nodule over the dorsum of the nose (Figure 1). A histopathologic examination was suggestive of a ruptured follicular cyst.

Six months later, she presented with a progressively enlarging fluid containing cyst over the dorsum of the nose with a watery discharge (Figure 2). An excisional biopsy showed a lobulated infiltrate of malignant cells with foamy cytoplasm and atypia separated by fibrovascular stroma. These histopathologic findings were compatible with SC (Figures 3a-b). A retrospective study of the initial biopsy was also consistent with SC.

Mohs micrographic surgery was done with 3 levels for the base to achieve free margins status. The size of the final defect was 3 x 2 cm. A complete blood count with differential liver function tests, urea, and electrolytes was normal. Urine cytology, colonoscopy, and a computed tomography of the abdomen, chest, and pelvis were normal.

Figure 1. A firm skin-colored nodule measuring 1.5 x 1.5 cm on the dorsum of the nose.



No recurrence of the lesion was seen during the 2-year close follow-up period.

Discussion

SC is a rare[7] and aggressive cutaneous neoplasm.[8] The general frequency of this tumor varies from 0.2% to 4.6% of all malignant cutaneous neoplasia.[9,10] There is a greater frequency for SC in the Asian population in comparison to other skin cancers.[11] SC may arise in ocular or extraocular sites.[2] SC occurs more commonly on the head (75%) with selective affinity for the eyelids or, less frequently, on the scalp,

or other areas of the face.[12] It can, however, arise anywhere including the skin of the trunk (15%) or the limbs (10%).[13,14]

Approximately 25% of all reported cases of SC are extraocular.[3] In extraocular SC the sex distribution is equal, while females tend to be affected more by ocular SC.[7,11] There are few isolated case reports of nasal sebaceous cancers. Bailet et al found only 400 cases of SC worldwide, whereby 91 of these were extraocular and only 19 (5%) were in the region of the nose, without specification of the actual site.[7]

The etiology of SC is unknown. However, SC has been reported in patients with a history of ionization exposure[15] and it is possibly linked to human papillomavirus (HPV) infection.[11] Few SCs are associated with MTS.[16] MTS is an autosomal dominant condition with variable penetrance.[11] Clinically, a diagnosis of MTS is made by the presence of at least one sebaceous gland tumor (adenoma, epithelioma, carcinoma, cystic sebaceous tumor, or keratoacanthoma with sebaceous differentiation) associated with at least one primary visceral malignancy.[17] Alternatively, diagnosis of MTS can be made if the patient has multiple keratoacanthomas with multiple internal malignancies and a family history of MTS.[17] The skin lesions are most commonly sebaceous adenomas, but sebaceous epitheliomas and carcinomas also occur in MTS.[18] Of the 205 cases of MTS reported by Akhtar et al, sebaceous tumors appeared before the internal malignancy in 22%, concurrently in 6%, and after the internal malignancy in 56%.[19] The total number of sebaceous gland carcinomas in MTS reported is 44; and 17 out of 44 were neoplasms of the meibomian glands.[19] Evaluation for this syndrome should include a rectal examination, a colonoscopy, and a urine cytology.[11] In this case, all investigations were normal; thus MTS was excluded up to this stage.

Since sebaceous tumors may appear before the development of internal malignancy in patients with MTS, a long-term screening program is suggested in all patients with a CSN, even in the absence of internal cancer during the initial clinical evaluation.[5] So far, CSN has been seen only in patients with MTS and has recently been characterized as a marker lesion of MTS.[4,5]

Rutten et al interpreted CSN as a tumor spectrum, clearly being cystic sebaceous adenoma at one end and proliferating atypical cystic sebaceous tumors at the other.[18] The biologic behavior of CSN is unknown.[18] There have been no reported recurrences or metastasis in CSN.[5] Rutten et al reported 12 CSNs treated with a simple excision with small margins. No recurrence or metastases occurred during follow-up of unspecified duration.[5]

Based on conventional histology alone, SC can be underdiagnosed.[20] SC histopathologically consists of well-circumscribed lobules of neoplastic cells separated by a fibrovascular stroma. Neoplastic cells typically exhibit eosinophilic cytoplasm and severe atypia, some of which have foamy or glassy

Figure 2. A fluid-containing cyst over the dorsum of the nose (6 months later).

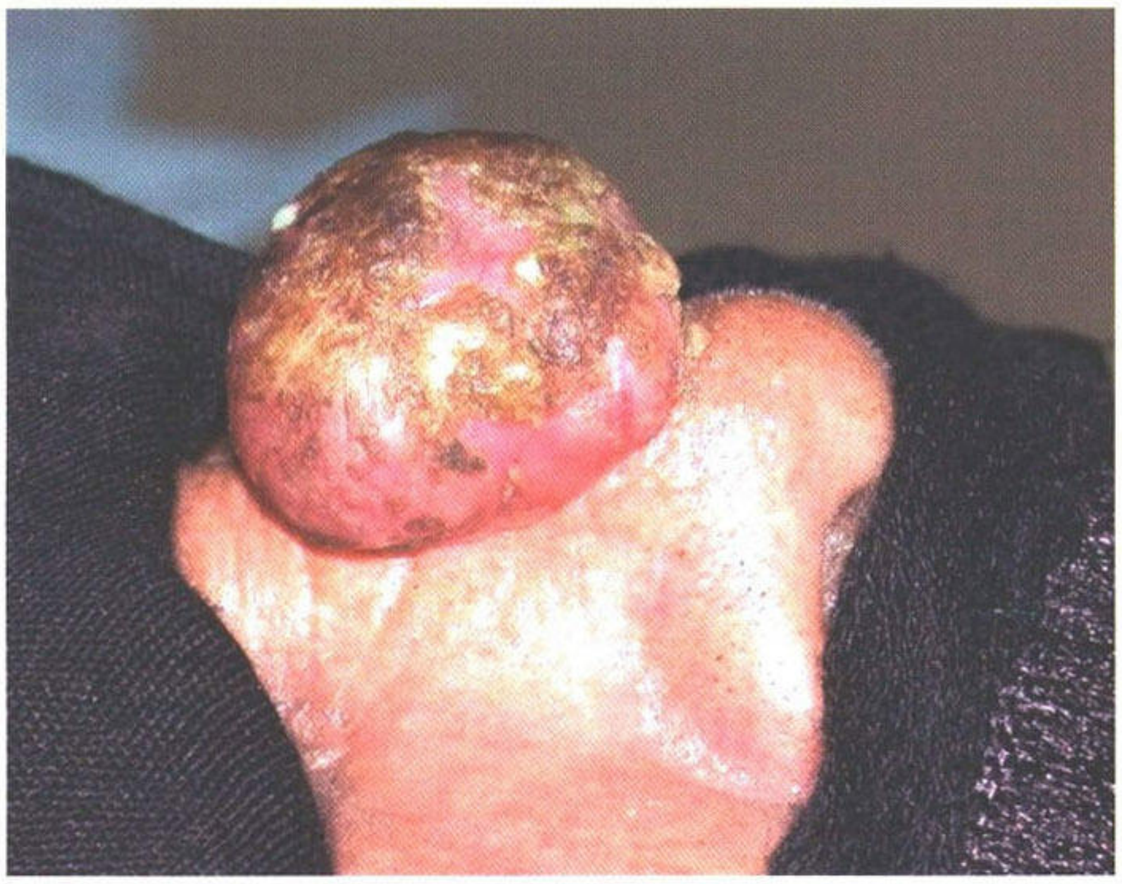


Figure 3a. A lobulated infiltrate of malignant neoplasm with central keratinization, separated by fibrovascular stroma (H&E, magnification x 10).

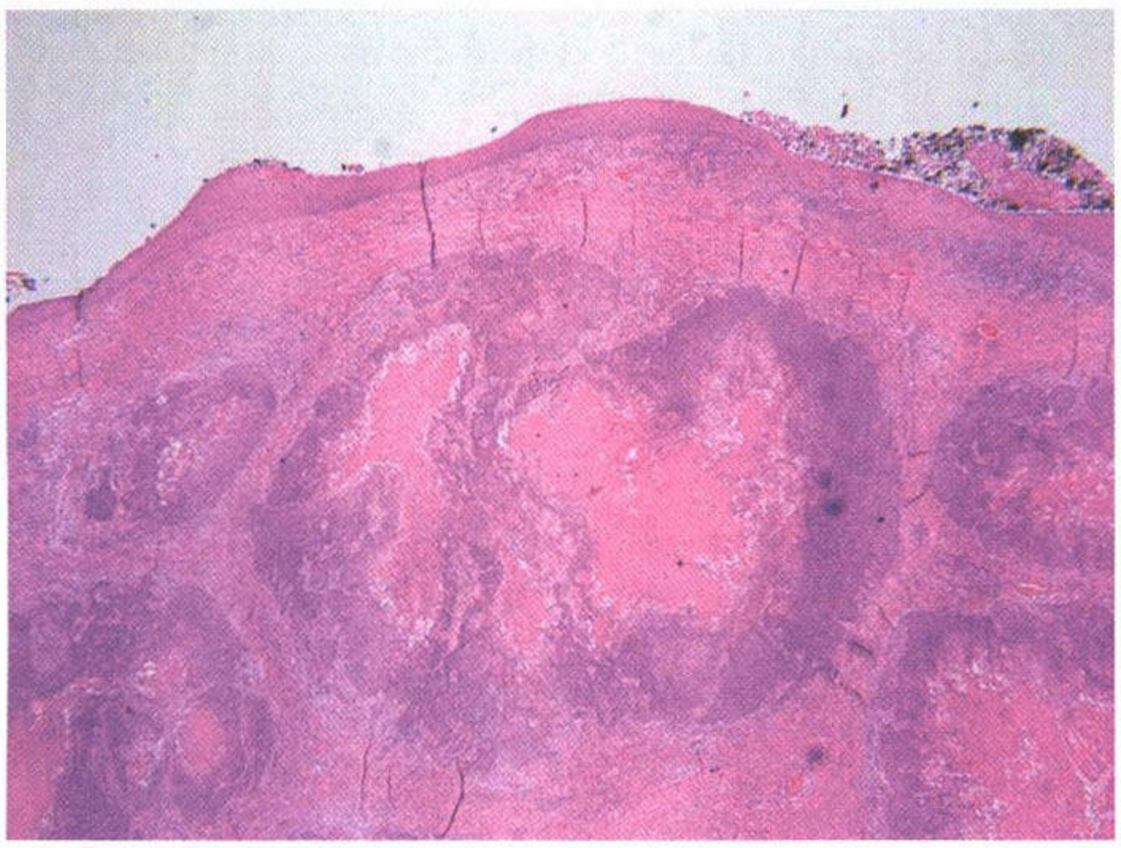
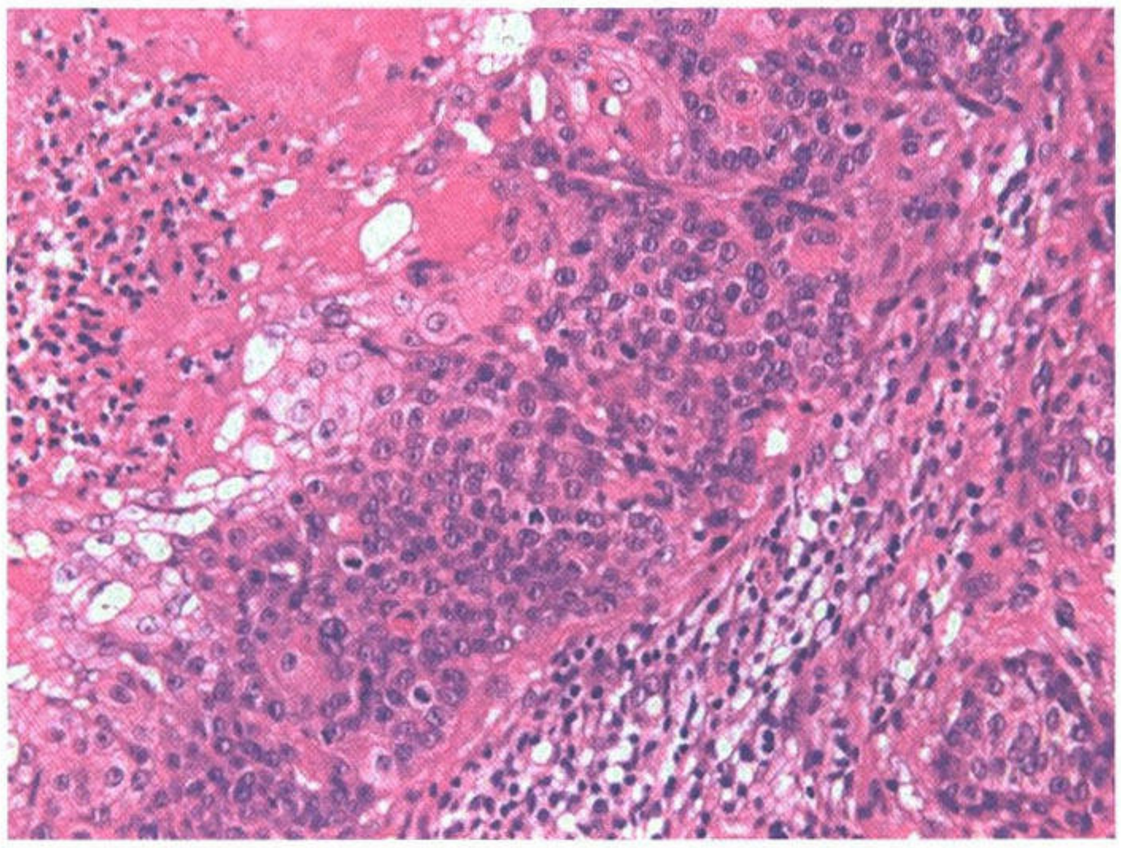


Figure 3b. Neoplatic cells with eosinophilic cytoplasm and atypia. The cells show foamy cytoplasm (H&E, magnification x 40).



lobules. Cytological atypia, including nuclear pleomorphism and frequent mitosis, is always present.[21]

In this presentation the previous biopsy that was suggestive of a ruptured follicular cyst was reviewed by another dermatopathologist after obtaining the second biopsy. Upon review, the histopathological features were found to be consistent with SC.

Treatment options for SC include cryotherapy, radiotherapy, and surgical excision.[10] Evidence that chemotherapeutic agents significantly alter the prognosis has not been documented.[7] While surgery with wide local excision is the mainstay of treatment, radiotherapy may be used for early less extensive tumors and as adjuvant therapy for lymphatic metastasis and palliation.[7]

From a therapeutic point of view, a safe excision margin has been shown to be 5 to 6 mm from the edges that are macroscopically visible.[22] More proliferative CSN should be completely excised but do not require further aggressive treatment.[5] To avoid overtreatment it is important to make a distinction between these CSNs and other, especially ocular, SCs that behave aggressively with a tendency toward recurrences and metastases.[5]

The benefit of Mohs surgery is that it can provide high quality complete microscopic margin surveillance control at the time of excision.[23] In addition to surveillance control, Mohs surgery offers excellent results when used as the primary treatment modality for SC of the eyelids,[24] which is considered more aggressive than extraocular SC.[12] Our patient underwent Mohs surgery and remains disease-free to date at 2 years follow-up.

Most of the CSNs tend to occur on the trunk and, so far, have been reported only in patients with MTS.[4,5,18] To the best of our knowledge, this is the first case report of cystic SC of the nose not yet associated with MTS. Additionally, cystic presentation of SC on the nose associated with MTS has not been previously described in relation to the nose with MTS.

Due to the fact that the biologic behavior of CSN is unknown, and the possible future appearance of MTS, our plan is to have long-term close follow-up with this patient. Our surveillance program includes annual clinical examinations (including cutaneous and rectal examinations) and colonoscopy. Urine cytology and computed tomography of the abdomen, chest, and pelvis will be performed every 2 years, as suggested by Cohen and coworkers.[6]

Acknowledgement

The authors would like to thank Professor Mohammed Al-Qattan, consultant plastic surgeon, College of Medicine and King Khalid University Hospital, King Saud University, Riyadh, Saudi Arabia, for reviewing this case report.

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5/9–5/12 *68th Annual Meeting of the Society of Investigative Dermatology*
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