Sebaceous carcinoma on the abdomen in an African-American male patient

Talitha C. Moon, Nicole M. Cassler[1], Jeffrey N. Lackey[1]

Department of Medicine, College of Medicine, Lake Erie College of Osteopathic Medicine, Bradenton, Florida, [1]Department of Dermatology, Walter Reed National Military Medical Center, Maryland, USA

ABSTRACT

Sebaceous carcinoma is a rare, aggressive cutaneous tumor most commonly involving the head and neck, especially the periorbital area. It has been associated with Muir–Torre syndrome, human papillomavirus infection, and radiotherapy. This case report describes an unusual clinical presentation of a large sebaceous carcinoma on the abdomen of an African-American male patient who was successfully treated with Mohs micrographic surgery. The case is reported due to the unusual location of the lesion on the abdomen and the rare occurrence of this tumor type in an African-American male.

Key words: Abdominal cutaneous neoplasia, Mohs micrographic surgery, Muir–Torre syndrome, sebaceous carcinoma, sebaceous gland carcinoma

Access this article online

Website: www.idoj.in

DOI: 10.4103/2229-5178.171044

Quick Response Code:

Address for correspondence:
Dr. Talitha C. Moon, Lake Erie College of Osteopathic Medicine, 5000 Lakewood Ranch BLVD, Bradenton - 34211, Florida, USA.
E-mail: talitha.moon@med.lecom.edu

INTRODUCTION

Sebaceous carcinoma, first well described by Allaire in 1891, is a rare, aggressive cutaneous tumor most commonly involving the head and neck, especially affecting Meibomian and Zeis glands of the periorbital area.[1-4] It is a malignant tumor derived from adnexal epithelium of sebaceous glands.[1,5] Although pathogenesis is still unclear, sebaceous carcinoma has been associated with Muir–Torre syndrome, the human papillomavirus, and radiotherapy.[1] Our case report describes an unusual clinical presentation of a large sebaceous carcinoma on the abdomen of an African-American man who was successfully treated with Mohs micrographic surgery (MMS).

CASE REPORT

A 77-year-old African-American man presented to our clinic with a pruritic rash on his left lower abdomen present for two months that had been treated with topical corticosteroids with no change in symptoms or appearance. The only other symptom was headache. His past medical history included diabetes mellitus type 2 and hypertension. The patient's family history was noncontributory. Physical exam revealed a 7.5 cm × 8 cm round, well-demarcated, erythematous, mildly lichenified plaque with central excoriation, containing a firm 5–6 mm yellowish superficial nodule and several 1–2 mm firm papules along the superior border [Figure 1].

Potassium hydroxide test was negative for fungal hyphae or spores. Punch biopsy demonstrated nuclear atypia, numerous mitotic figures, and areas of tumor necrosis. Cystic architecture, positive immunohistochemical stains for antiepithelial membrane antigen (EMA), BCL-2 antigen, antiepithelial antigen (BER-EP4), and carcinoembryonic antigen (CEA), together with pagetoid spread of atypical sebocytes supported a diagnosis of sebaceous carcinoma [Figure 2].[6] Immunohistochemical stains for microsatellite instability were performed, with mutL homolog one (MLH1), mutS homolog two (MSH2), mutS homolog six (MSH6), and postmeiotic segregation increased two (PMS2) genes all found to be intact. Sebaceous neoplasms, especially with cystic architecture, are associated with Muir–Torre syndrome. However, intact microsatellite markers in this case indicate

Cite this article as: Moon TC, Cassler NM, Lackey JN. Sebaceous carcinoma on the abdomen in an African-American male patient. Indian Dermatol Online J 2015;6:27-9.

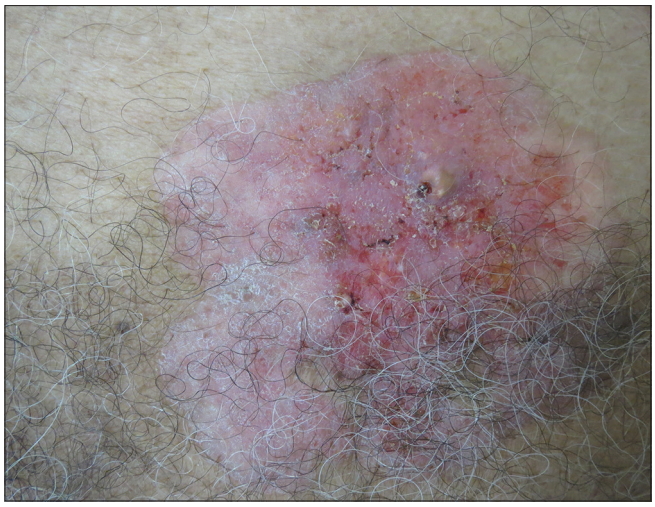

Figure 1: Round, well-demarcated plaque with central excoriation containing a firm yellow superficial nodule and several firm papules along the superior border

microsatellite stability, making Muir–Torre syndrome unlikely in this patient.

The patient successfully underwent MMS without complication. Excision borders were examined for possible pagetoid spread, and following two levels, a tumor-free plane was reached. He was referred to oncology for further evaluation. No visceral malignancy or metastases were reported. No recurrence of the lesion was observed one month following surgical excision; however, the patient was subsequently lost to follow-up.

DISCUSSION

Sebaceous carcinoma most commonly presents as a slow-growing, deep-seated firm nodule, which can mimic more common ophthalmologic or dermatologic conditions.[2,4,5] In fact, the most confounding aspect of sebaceous carcinoma is its myriad clinical presentations, which often delays diagnosis by 1–2.9 years and may increase mortality.[2,5] The differential diagnosis can often include chalazion, blepharoconjunctivitis, meibomitis, conjunctival carcinoma *in situ*, squamous cell carcinoma, or basal cell carcinoma. Definitive diagnosis can only be made with biopsy and histological examination.[1,2] Staining with hematoxylin–eosin dyes makes diagnosis possible in most cases, although immunohistochemistry is helpful for confirmation.[1]

Notably, the presence of sebaceous carcinoma can be concerning for possible underlying visceral malignancy due to its association with Muir–Torre syndrome, a variant of hereditary nonpolyposis colon cancer (Lynch syndrome), and further oncological workup may be indicated.[4,5] In fact, nearly half of individuals with Muir–Torre syndrome have been estimated to develop at least two malignancies before, concurrent with, or after a sebaceous tumor.[5]

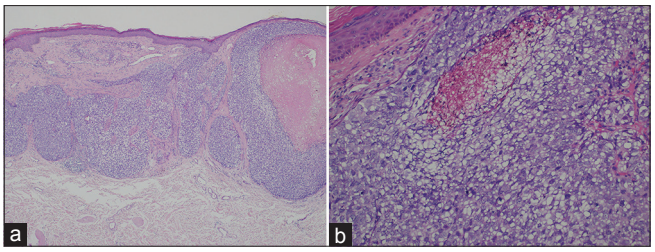

Figure 2: Nuclear atypia, numerous mitotic figures, areas of tumor necrosis, and pagetoid spread of atypical sebocytes (H and E, a: ×40, b: ×200)

Local recurrence is common after conventional surgical excision of sebaceous tumors, therefore surgical resection with 5 mm margins and MMS remain the most efficient forms of treatment.[1,2,4] Histopathology of surgical borders should be examined to determine possible pagetoid spread.[1]

An analysis of the National Cancer Institute's Surveillance, Epidemiology, and End Results (SEER) database from 1973 to 2004 consisting of 1349 patients was performed by Dasgupta *et al*.[2] Their analysis revealed that the overall population-matched rate of sebaceous carcinoma was highest in Whites (2.03 cases per 1,000,000; standard error = 0.08) versus Asian/Pacific Islanders (1.07 per 1,000,000; standard error = 0.18; $P = 0.0001$), with African-Americans having the lowest recorded rate of occurrence (0.48 per 1,000,000; standard error = 0.11; $P < 0.0001$).[2] Similar results were obtained by Dores *et al*. in their data analysis regarding the relatively rare occurrence of sebaceous carcinoma in the African-American population compared with others, which resembles the racial differences reported for keratinocyte-derived skin cancers as well as cutaneous melanoma, suggesting that the protective effects of cutaneous pigmentation on various forms of skin cancer may extend to sebaceous carcinoma.[5]

These retrospective analyses also corroborated previous case reports showing the eyelid and facial skin to be the most commonly involved sites.[2,5] Frequent occurrence in these areas reflects their relatively high density of sebaceous glands, whereas occurrence on the abdomen, scalp and neck, upper limb and shoulder, external ear, lower limb and hip, lip, and genitals remains rare.[2,4,5]

The rate of distant metastases and death in cases of sebaceous carcinoma, regardless of anatomic location, is higher than that of other cutaneous carcinomas such as squamous cell carcinoma and basal cell carcinoma, with extraocular sebaceous carcinoma associated with lower metastatic potential than that of periorbital sebaceous carcinoma.[2,6] Furthermore, Muir–Torre syndrome, an autosomal dominant genodermatosis, should always be considered when evaluating patients with sebaceous carcinoma.[4,5] Strict differentiation of

sebaceous carcinoma from other cutaneous cancers is required to appropriately guide medical management.[6]

We present an unusual case of sebaceous carcinoma occurring in an atypical location in an African-American man and treated successfully with MMS. Our patient highlights the possibility of this tumor arising in uncommon locations, broadening the differential diagnosis for clinicians faced with cutaneous tumors in patients with a darker skin type.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

REFERENCES

1. Lucares DO, Bernardes-Filho F, Vega H, Kac BK, Pereira MR, Nery JA. Inguinal ulcerated sebaceous carcinoma: An unusual presentation. An Bras Dermatol 2013;88 (Suppl 1):48-51.
2. Dasgupta T, Wilson LD, Yu JB. A retrospective review of 1349 cases of sebaceous carcinoma. Cancer 2009;115:158-65.
3. Beach A, Severance AO. Sebaceous gland carcinoma. Ann Surg 1942;115:258-66.
4. Berlin A, Amin SP, Goldberg DJ. Extraocular sebaceous carcinoma treated with Mohs micrographic surgery: Report of a case and review of literature. Dermatol Surg 2008;34:254-7.
5. Dores GM, Curtis RE, Toro JR, Devesa SS, Fraumeni JF Jr. Incidence of cutaneous sebaceous carcinoma and risk of associated neoplasms: Insight into Muir-Torre syndrome. Cancer 2008;113:3372-81.
6. Ansai S, Takeichi H, Arase S, Kawana S, Kimura T. Sebaceous carcinoma: An immunohistochemical reappraisal. Am J Dermatopathol 2011;33:579-87.