

Giant cutaneous squamous cell carcinoma requiring emergent embolization



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INTRODUCTION

Cutaneous squamous cell carcinoma (cSCC), a subset of nonmelanoma skin cancer (NMSC), is a common form of skin malignancy. National cancer registries have traditionally not tracked cSCC, but its 2012 incidence within the US white population was estimated to be within 186,157 and 419,543.¹ NMSCs greater than 5 cm in size are labeled as giant NMSC. These giant NMSCs usually arise owing to long-term neglect of a slow-growing lesion and pose significant challenges in treatment.² Here, we present a case of a giant cSCC in a 70-year-old woman that is unique in several aspects, including its emergent presentation and clinical features that made the cSCC standard treatment impossible. We also describe the clinical course of a novel treatment for cSCC: embolization of the blood supply.

CASE REPORT

A 70-year-old white woman presented to the University of Mississippi Medical Center emergency department with uncontrolled bleeding from a large malodorous head mass. According to the patient and family, the mass appeared 1 year prior and progressively increased in size. There were several other small masses on her scalp that she self-treated with needle drainage. She did not present for treatment when the tumor initially appeared for fear of a cancer diagnosis. She had intermittent headaches and visual changes in the left eye for the 2 days prior to presentation. Physical examination found a 12- × 12-cm (Fig 1) bleeding fungating tumor occupying 50% of her left forehead, frontoparietal scalp, and upper eyelid. The patient became hypotensive with facial and conjunctival pallor secondary to hemorrhage from the tumor. Her hemoglobin level

Abbreviations used:

CT: computed tomography
 cSCC: cutaneous squamous cell carcinoma
 NMSC: nonmelanoma skin cancer

at that time was 6.8 g/dL with a hematocrit of 21.3%, and we administered 2 units of packed red blood cells. Application of pressure dressings infused with lidocaine/epinephrine and electrocautery resulted in hemostasis. An arteriogram showed a robust vascular supply from the external carotid artery, superficial temporal artery, and middle meningeal artery and a small contribution from the occipital artery (Fig 2). Interventional radiology achieved embolization of the superficial temporal and medial meningeal artery.

A computed tomography (CT) scan of the head (Fig 3) found multiple scalp masses, the largest measuring 12 cm in the greatest diameter with underlying sclerosis of the left frontal bone without bony invasion. A biopsy of the tumor found cutaneous squamous cell carcinoma with widespread necrosis (Fig 4). CT scan of chest, abdomen, and pelvis found bilateral adrenal masses measuring 2.4 cm and 2.6 cm of unknown etiology and a cystic adnexal mass suspicious for ovarian cystic lesion or neoplasm. The imaging found no abnormalities suggestive of metastasis. American Joint Committee on Cancer TNM staging for cSCC classifies the tumor as T2,NX,M0, stage II cSCC.

The facial plastic surgery department was consulted for evaluation. They recommended against complete resection, as removing the tumor would require excision of the left side of the forehead, underlying skull, left anterior skull, much of

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Fig 1. Photograph of giant cSCC on forehead of patient. The tumor is positioned superior to her left eye.

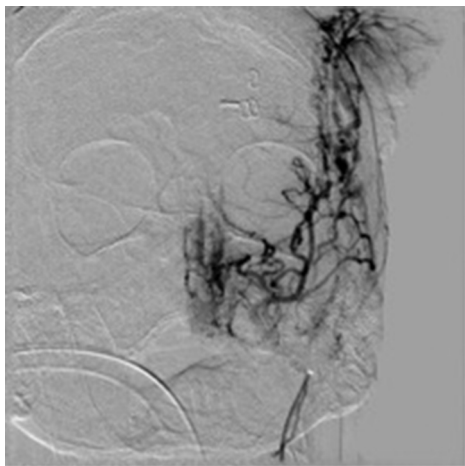


Fig 2. CT angiogram of giant cSCC shows vascular supply.

the left temporalis, and a large portion of the left orbit to achieve clear margins. Additionally, palliative debulking of the tumor posed a high risk of uncontrollable bleeding because of the friability of the tumor. Both procedures were deemed too high risk to proceed, so palliative care, including radiation and possible re-embolization, was recommended. Because of her clinical condition, we did not seek further workup of the ovarian mass.

The patient subsequently had cough and chest pain, and a CT scan found subsegmental non-occluding acute pulmonary emboli in both lungs. The risk of anticoagulation was too great because of her risk of bleeding from the tumor. We offered insertion of an inferior vena cava filter, but the patient refused the procedure, opting for hospice care.

The patient presented 2 months later to the neurosurgery department for a second embolization. They performed diagnostic cerebral angiography, which found substantial scalp and dural vessel collateralization bypassing the previously embolized



Fig 3. Coronal CT of giant cSCC on forehead of patient.

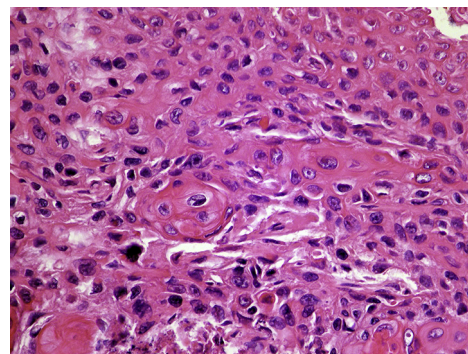


Fig 4. Tumor biopsy shows cSCC with widespread necrosis. (Original magnification: $\times 200$.)

vessels. Neurosurgery determined there was no arterial supply substantial enough to achieve satisfactory embolization.

We contacted the patient 6 months after the attempted second embolization. She was living in hospice care and receiving outpatient palliative radiation therapy at a local hospital.

DISCUSSION

This case describes an unusual presentation of a giant cSCC with several unique features. Foremost, the tumor was highly vascularized, leading to significant treatment challenges. The tumor's high degree of vascularity precluded treatment with the traditional therapy for cSCC, local surgical excision.³ Embolization of the vascular supply was the only therapy administered during the initial admission. Use of embolization to treat cutaneous tumors was previously reported in 2 contexts: (1) as a

pretreatment for surgical removal to decrease intraoperative blood loss^{4,5} and (2) stabilization of acute hemorrhage from congenital hemangiomas.⁶ In this case, because she was not a surgical candidate, embolization was attempted as the primary treatment rather than a pretreatment or adjunct. Although the embolization was successful in stabilizing the emergent hemorrhage, it was ultimately ineffective at curing the disease because of the rapid revascularization.

Because the patient decided against further treatment of the primary tumor, it is difficult to comment further on what therapies could have improved her clinical condition. Although embolization was effective in stabilizing her active bleeding, it made little impact on the course of her disease.

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