

Extensive Locally Invasive Cutaneous Tumors

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Extensive Locally Invasive Cutaneous Tumors

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Case One

Patient: 75 year-old Caucasian female.

History of Present Illness: Our patient presented to the emergency department with a 2 week history of generalized weakness. She was noted to have a large fungating mass on the left parietal scalp. She reported a chronic wound secondary to injury in this region for 7 years, but noted rapid growth of the mass during the previous 2 months with significant oozing. An incisional biopsy of the scalp including skin and subcutaneous tissue revealed a sarcomatoid basal cell carcinoma (BCC). Further workup for metastatic disease was negative.

The patient was started on vismodegib prior to surgical intervention. She was managed on this for 1 month but was re-admitted to the hospital with progression of the tumor. The tumor had eroded away a significant amount of calvarium leaving dura exposed. Her surgery date was advanced and she had combined craniectomy and excision of 13 x 15 cm scalp mass which reconfirmed sarcomatoid BCC. Patient was discharged on vismodegib and did well until a fall at home secondary to weakness 5 months later. She was re-admitted and imaging showed rapid regrowth of the previously resected mass for which she again underwent left parietal craniectomy for gross total resection of recurrent disease. Follow up imaging disclosed no residual enhancing mass. She has since been followed by radiation oncology, is getting regularly scheduled local radiation therapy and has had restoration of most activities of daily living.

Medical/Surgical History: None

Family History: No family history of skin cancer

Physical Examination: There is a large, multilobulated, beefy red, fungating mass on the upper left tempoparietal region of scalp measuring greater than 7cm in width associated with serosanguinous fluid drainage without palpable lymphadenopathy.

Imaging Studies: CT Head without contrast: Extensive lobulated mass involving the left frontal and parietal scalp. There is a large area of underlying and adjacent destroyed and/or excavated bone involving the left frontal and parietal calvarium.

Histopathology: Health Network Laboratories (S15-6559, 03/01/2015) Skin, ulcerating scalp wound: "Sarcomatoid basal cell carcinoma." (S15-10657, 04/04/2015) Invasive scalp mass: "Cutaneous sarcomatoid carcinoma with bone invasion." Dura: "Cutaneous sarcomatoid carcinoma in fibrous tissue."

Figures 1 and 2 (Patient 1): Large, friable ulcerated tumor at the left frontoparietal scalp with bony destruction and dural extension- pathology proven sarcomatoid basal cell carcinoma (orientation- towel on left of image placed over eyes, exposed skin represents forehead).



Figure 3: CT head without contrast.



Figure 4 (4x): Two distinct populations visible, with basaloid component seen to the left of the cleft and sarcomatoid component seen to the right.

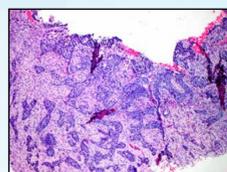


Figure 5 (10x): Basaloid proliferation.

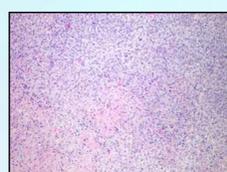


Figure 6 (10x): Sarcomatoid proliferation.

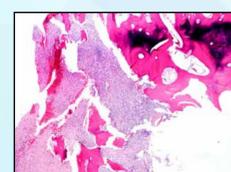


Figure 7 (4x): Cutaneous sarcomatoid carcinoma with bone invasion. This represents direct invasion to skull rather than metastasis.

Case Two

Patient: 66 year-old Caucasian male.

History of Present Illness: Our patient presented to the office with a right sided scalp mass measuring approximately 15 centimeters in size that per history had been enlarging over at least the prior 18 months. The patient was living in Central Africa where he received chemotherapy, in an attempt to decrease tumor burden for surgery, prior to returning to the United States. A biopsy confirmed a moderately differentiated squamous cell carcinoma (SCC) and subsequent imaging and surgical resection was performed.

Coordination between plastic surgery and neurosurgery occurred and the patient had left frontotemporo-parietal skin flap and excision of the fungating SCC by means of a craniectomy and resection of the skull tumor with subsequent cranioplasty.

The patient did well for 3 months until he was re-admitted with encephalopathy. He was found to have increased edema and mass effect on CT scan which progressed despite treatment with dexamethasone and hypertonic saline. There was suspicion for tumor recurrence. Ultimately, the patient continued to decline and developed respiratory insufficiency requiring intubation. He was no longer deemed a candidate for surgical intervention and the decision was made with the family and palliative care team to transition the patient to comfort measures.

Medical/Surgical History: None

Family History/Social History: Brother with SCC and BCC

Previous Treatments: In Chad, per previous records: vincristine, oxaliplatin

Physical Examination: There is a 15 x 12 cm ulcerated foul-smelling fungating tumor with raised border and central necrosis on the right crown of the scalp. The lesion is indurated with fixation to the underlying structures. The tumor periphery is easily friable with hemorrhage.

Imaging Studies: CT scan with and without contrast: 19 x 100 x 20 mm ulcerated, enhancing right frontal and parietal scalp mass which invades the underlying right frontal and parietal bones.

Histopathology: Health Network Laboratories (S15-23563, 07/23/2015): Skin and subcutaneous tissue, scalp: "Squamous cell carcinoma, moderately differentiated, 31mm in depth with perineural invasion and regression." Skull, frontal right parietal: "Invasive squamous cell carcinoma, invading through full thickness of bone into the dura."

Figures 8, 9 (Patient 2): 15cm fungating, irregular, ulcerated tumor on the right frontoparietal scalp - pathology proven moderately differentiated SCC.



Figure 8

Figure 9

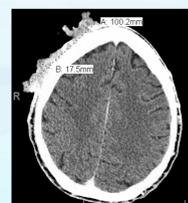


Figure 10: CT head with/without contrast.

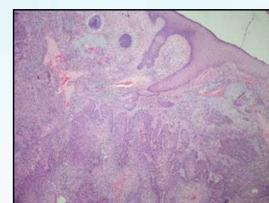


Figure 11 (4x): Moderately differentiated squamous cell carcinoma, extension from the epidermis noted at the lateral portion of the specimen.

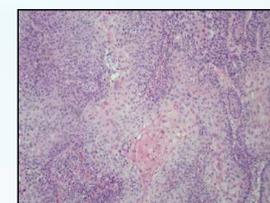


Figure 12 (10x): Squamous cell carcinoma, higher magnification. Squamous eddy noted.

Discussion:

The locally invasive potential of the two most commonly encountered skin cancers, basal cell carcinoma and squamous cell carcinoma, have been well described. Although the mechanisms regarding local invasion are proposed to be different, they can be equally as destructive and fatal.

Basal cell carcinoma (BCC), the most common cutaneous malignancy, accounting for up to 70% of all malignant diseases of the skin, often presents at an early stage that is amenable to diagnostic biopsy and subsequent treatment. However, if left to proliferate for an extended period of time, these tumors may become not only strikingly large but also difficult to treat. The particular subset of basal cell carcinoma histopathologically can often predict the aggressiveness of the tumor. An uncommonly described variant of BCC known as a sarcomatoid basal cell carcinoma (formerly carcinosarcoma in the literature) has a particular preponderance for invasion. The primary characteristics of this variant necessitate that the tumor displays both an epithelial and mesenchymal component and that both populations are malignant. A review of the literature identifies over 40 individual cases of this type of malignancy. Though there is variability among individual case reports, a meta-analysis performed on 42 cases did show that this type of tumor is an aggressive form of non-melanoma skin cancer (NMSC). Findings from this analysis additionally revealed that certain clinical characteristics predict worse prognosis for patients with sarcomatoid BCC, which include recent growth, large tumor size, regional lymph node metastases, and longstanding pre-existing skin tumor.

Squamous cell carcinoma (SCC), the second most common form of skin cancer in Caucasians, has a known tendency not only for local invasion but also metastasis. These tumors have a known tendency for recurrence and metastasis based on features including but not limited to deep invasion, poor differentiation and perineural invasion. Clinical factors that correspond to an increase in mortality include lesion diameter of greater than or equal to 4 cm, histopathological evidence of perineural invasion, and deep invasion beyond subcutaneous structures. The presence of any one of these risk factors reduces the 3 years survival rate from 100% to 70%.

The purpose of this presentation is to further emphasize the importance of early discovery and intervention in commonly encountered skin cancers. While their locally invasive nature is well known to the field of dermatology, their true potential for destruction or ultimate fatality should not be underestimated.

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