

Wound Management of Unresectable Basal Cell Carcinoma of the Scalp

Daniyal Qadir MS, James Bassett BS, Amulya Marellapudi BS, Jerrin George BS, Richard Slmman MD

All authors affiliated with The University of Toledo College of Medicine and Life Sciences

Introduction

- BCC is the most common skin malignancy in the US, linked to sunlight exposure [1]
- Incidence difficult to estimate, but around 525 cases per 100,000 in 2019, increasing since 1990 [2, 3]
- Affects over 1 million Americans, posing a significant burden [3]
- 5-year cure rate for head lesions above 90% despite larger sizes [4, 5]
- Advanced locally destructive BCC more common than metastasis, often due to delayed presentation [6]

We discuss a 52-year-old male who presented with invasive, metastatic basal cell carcinoma of the scalp and nose.

Case Presentation

A 52-year-old male presented to a wound clinic with basal cell carcinoma of the scalp and nose that had been growing for several months prior to initial presentation (Figures 1 and 2). He had a past medical history of myasthenia gravis, osteomyelitis of the skull, and hypercalcemia of malignancy. The carcinoma measured 18cm² at the nose and 390cm² at the scalp with red, yellow, and black discoloration and serosanguineous drainage. Healing was complicated by severe pain as well maggots found within areas of necrotic tissue and within the skull. The patient was spared of additional infection signs.

Resection of the carcinoma as definitive treatment was discussed, but given the extent of involvement he was placed the oral chemotherapy medication Vismodegib. He took one 150mg capsule daily to slow disease progression and was instructed to carry out proper wound cleaning and dressing changes daily. Wound management consisted of the following: daily application of Adaptic non-adhering dressing followed by gauze moistened with Vashe wound solution, coverage with an ABD pad and dressing secured with a shower cap. The patient also complained of a foul odor from the wound, for which he was advised to use topical metronidazole powder.

Despite these interventions, he saw modest improvement to the surface area of involvement on his nose and scalp. Further discussions about resection and a free skin flap graft have been stalled two months and five appointments into treatment.

Discussion

- Incidence of BCC increasing in US and globally [6]
- Diagnosis based on clinical appearance, genetics, and patient history [6]
- Treatment options include surgical excision, systemic treatment, radiotherapy, Mohs surgery, electrodesiccation, curettage, and skin grafting [6]
- Hh pathway inactivation crucial for difficult lesions; PTCH1 and SMO genes critical [7]
- Oral Hh inhibitors Vismodegib and Sonidegib target SMO gene [7]
- Vismodegib shows 60.3% overall response rate in locally advanced BCC [8,9]
- Mohs surgery gold standard for facial BCC, with low recurrence rates [10,12]
- Surgical risks include infection, delayed healing, bleeding, and pigment changes [11]
- Extensive BCC may require full flap reconstruction [12,13]
- Scapular and latissimus dorsi flaps suitable for larger areas [14,15]
- Proper wound management crucial to prevent complications and hemorrhage [16]
- Cutaneous myiasis (maggot infestation) treated with saline irrigation and manual removal [17,18,19]
- Dakin's solution most effective, followed by isopropyl alcohol and betadine [20]



Figure 1: Scalp Involvement of Basal Cell Carcinoma

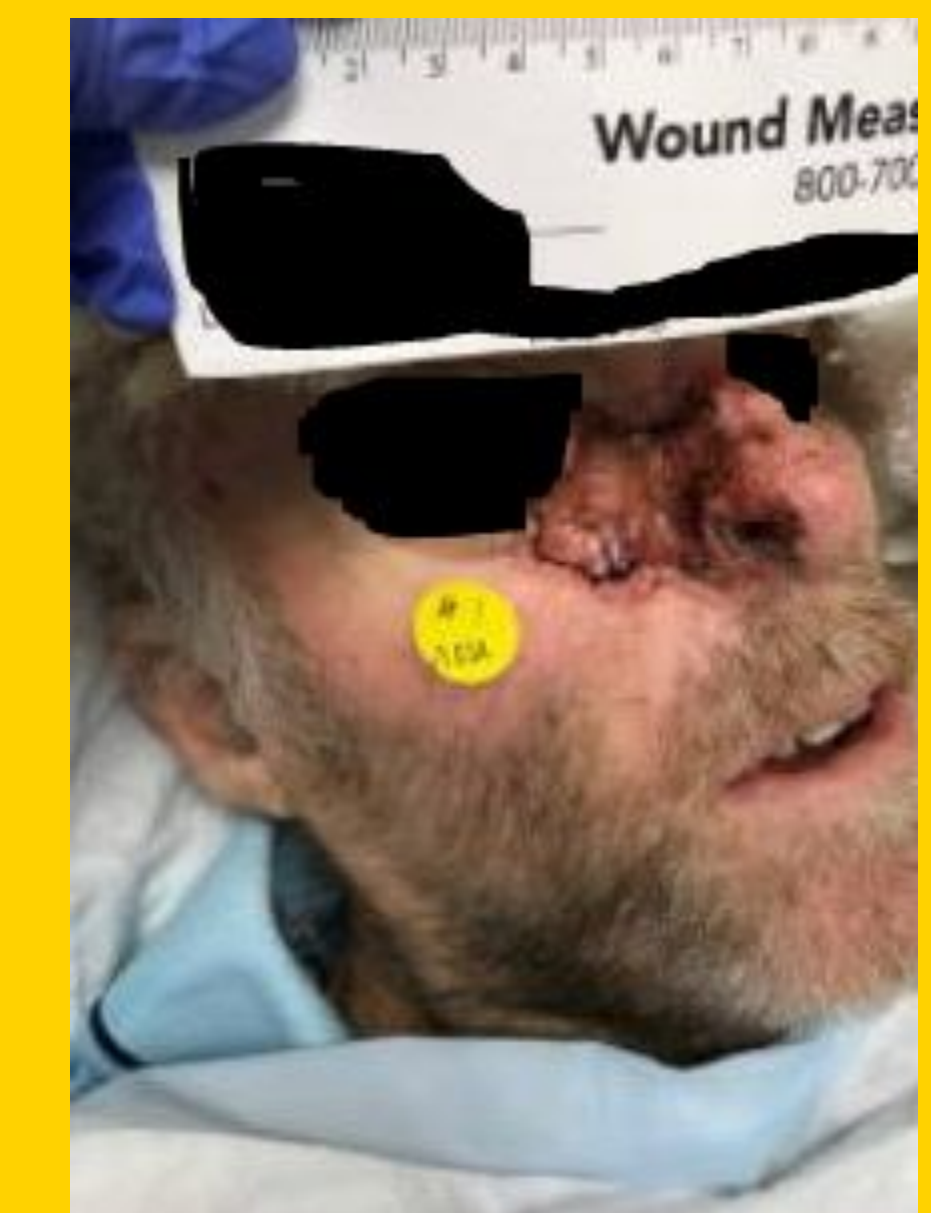


Figure 2: Nasal Involvement of Basal Cell Carcinoma

Conclusions

There are a wide variety of treatment options for the management of basal cell carcinomas. While the majority of BCCs are often surgically excised, effective management for complex presentations such as our case indicated an alternative treatment with inhibition gene signaling pathway and skin grafting. While targeting signaling pathways proved to be a minor benefit to this patient, further investigation and follow-up of this patient is merited to determine the effectiveness of treatment in complicated cases of BCC.

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