SKIN

BRIEF ARTICLE

# A Case of Cutaneous Squamous Cell Carcinoma Treated with Neoadjuvant Cemiplimab

Iraj Hasan, BA[1], Mary Garland-Kledzik, MD[2]

[1] West Virginia University School of Medicine, Morgantown, West Virginia, USA
[2] Department of Surgical Oncology, West Virginia University, Morgantown, West Virginia, USA

## ABSTRACT

We present a case describing the successful treatment of a 68-year-old male with high-risk cutaneous squamous cell carcinoma (cSCC) using neoadjuvant cemiplimab. The patient presented with a rapidly growing papule on the left hand, which was initially treated with wide local excision and subsequently developed axillary lymphadenopathy. After radiation therapy led to complications, the patient received four cycles of cemiplimab, resulting in significant tumor necrosis and minimal residual disease. This case underscores the potential of cemiplimab as a neoadjuvant therapy for cSCC, offering an effective treatment with fewer adverse effects compared to traditional therapies. The report highlights the importance of a multidisciplinary approach in optimizing outcomes for patients with advanced cSCC.

## INTRODUCTION

Immune checkpoint inhibitors (ICI) have rapidly become the gold standard in treating various cancer types, initially focusing on melanoma and lung cancer, and now extending to a multitude of malignancies. Many of these cancers previously carried a bleak prognosis prior to the introduction of immunotherapies. Cutaneous squamous cell carcinoma (cSCC), among the cancers now frequently treated with immunotherapy, typically arises in individuals with prolonged exposure to ultraviolet light, compromised immune systems, fair skin, and advanced age. The traditional treatment approach for advanced cSCC involves a combination of surgery, cisplatin, and radiation therapy.[1] However, neoadjuvant ICI therapy with drugs like cemiplimab have emerged as a viable alternative to this more morbid treatment.

Here, we present a case involving cSCC affecting the hand with spread to the axilla employing multidisciplinary treatment.

## CASE REPORT

A 68-year-old male retired roofer with a past medical history of chronic obstructive pulmonary disease, obstructive sleep apnea, diabetes mellitus, atrial fibrillation, hypertension, and a COVID-provoked pulmonary embolism initially presented to dermatology clinic with a rapidly growing papule on his left hand. Biopsy of the lesion revealed cSCC and the patient subsequently underwent wide local excision. A year later, he presented to oncology clinic with left axillary lymphadenopathy, preliminary biopsy of which showed moderately differentiated squamous cell carcinoma consistent with nodal metastatic disease. PET showed no

distant metastases (**Figure 1**). The patient then underwent 19 treatments of radiation (49 Gy) in attempt to control the local disease as it was originally deemed borderline resectable by a local surgeon. While he had a good response, this unfortunately resulted in the development of a large axillary abscess that required hospital admission. Radiation was stopped, and four cycles of immunotherapy with cemiplimab (350 mg every 3 weeks) was given with good response prior to left axillary lymph node dissection (**Figure 2**). Final pathology revealed diffuse necrosis with only 3 mm of residual disease.

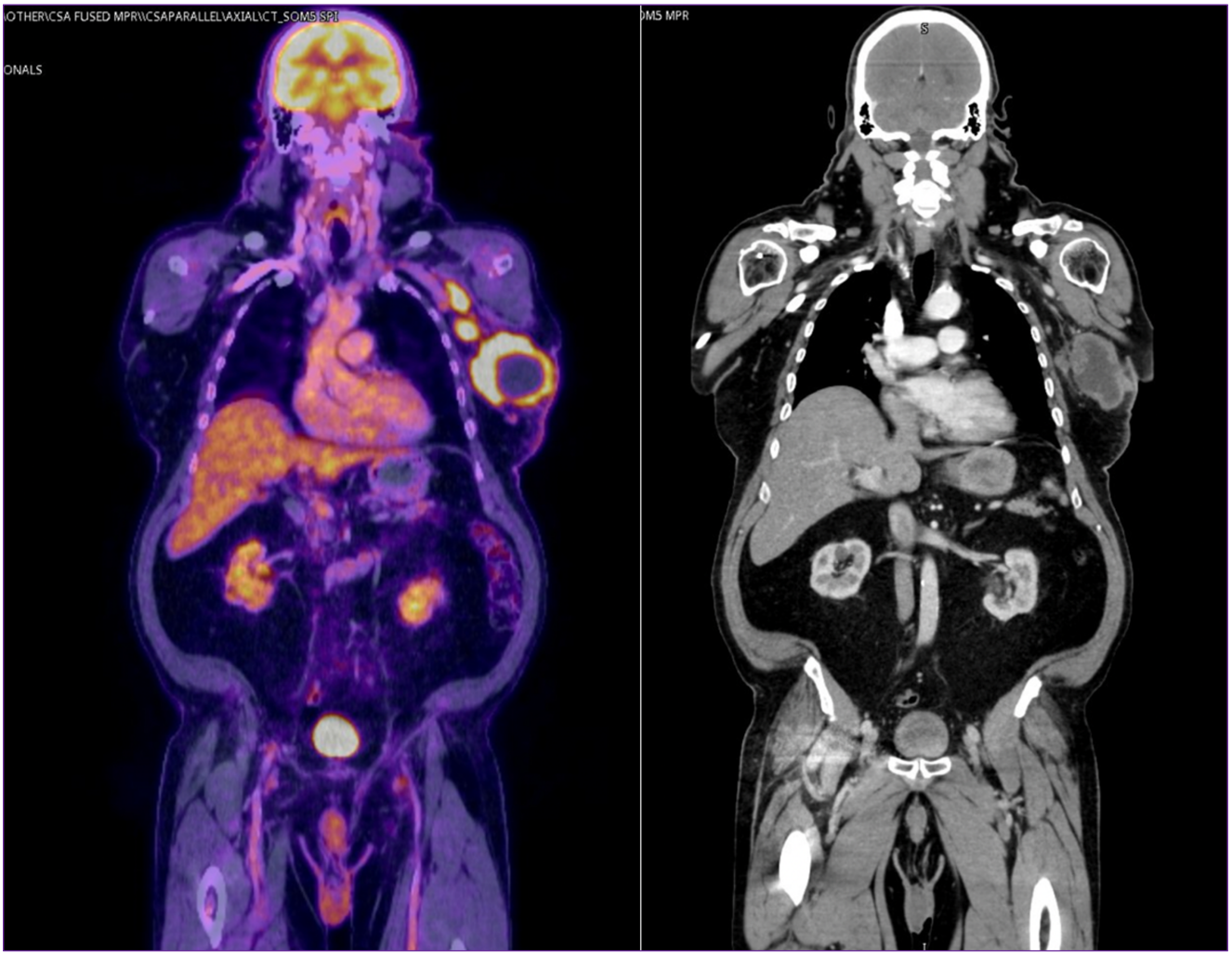


**Figure 1.** PET scan prior to cemiplimab and radiation therapy.

## DISCUSSION

This patient's tumor showed many features of high risk cSCC including recurrent cancer, location on the extremities, rapid growth, and exceeding 2 centimeters in size[2] that increased his risk of lymph node spread. Historically, cisplatin and radiation have been the standard primary intervention in cases like these.[1] This can be considered "definitive care" in unresectable disease. For many of these patients, however, large tumors become necrotic and continue to cause quality of life issues requiring resection. Timing of resection after radiation is

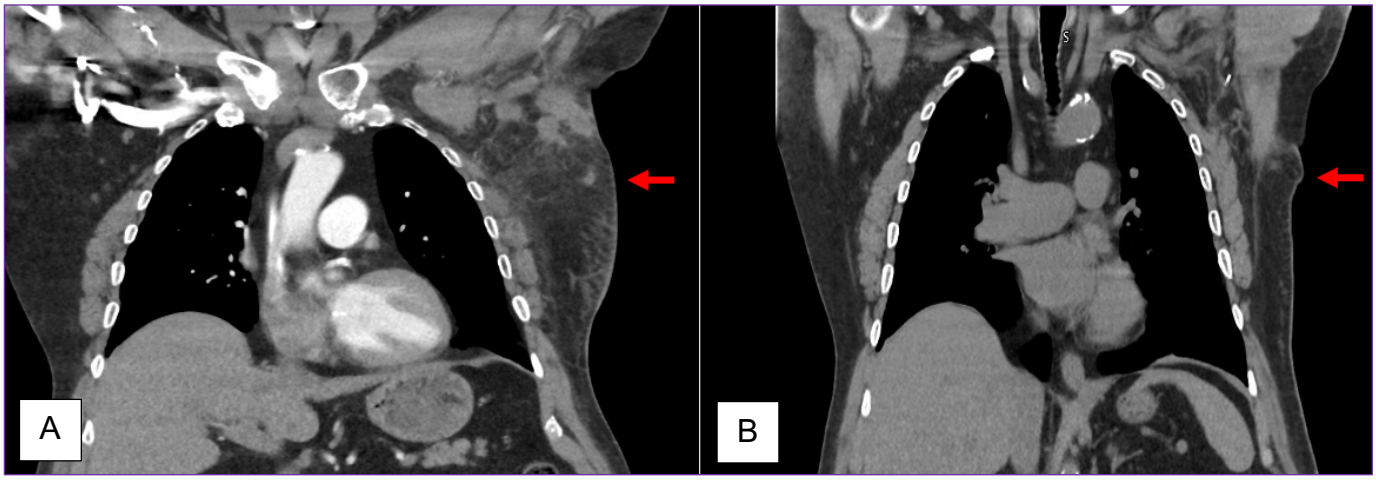


**Figure 2.** CT images (A) before and (B) after radiation and 4 cycles of cemiplimab.

important due to fibrosis so delay between radiation and surgery can be detrimental to removal of the tumor.

The first trial using cemiplimab as treatment for cSCC observed a 47% response rate in patients with metastatic disease.[3] A more recent trial studying cemiplimab as neoadjuvant therapy prior to surgery found that 51% of patients with stage II- IV cSCC had a pathological complete response.[4] The most common adverse effects of cemiplimab observed in this trial included fatigue, appetite disturbances, constipation, diarrhea, hypercalcemia, hypophosphatemia, and urinary tract infections. In rare cases, cellulitis, pneumonitis, pleural effusion, and death occurred. In contrast, adverse effects of cisplatin and radiation therapy include severe radiation dermatitis, oral mucositis, weight loss, myelosuppression, and need for hospitalization,[5] which are overall less tolerable than the adverse effects of cemiplimab.

The outcome of this case provides strong evidence that anti-PD-1 antibodies are an excellent treatment option for cSCC, especially as a neoadjuvant therapy to reduce the amount of destruction to surrounding tissues leading to fibrosis and wound healing issues with radiation prior to surgery. Patients deemed eligible for ICI therapy should be seen by a multidisciplinary team including medical oncologists, radiation oncologists, and surgical oncologists prior to beginning therapy.

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**Corresponding Author:**
Mary Garland-Kledzik, MD
West Virginia University
1 Medical Center Drive
Morgantown, WV, USA 26506
Phone: 304-293-7201
Email: molly.kledzik@hsc.wvu.edu

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