

Sintilimab as an Effective Treatment for Recurrent Cutaneous Squamous Cell Carcinoma in an Elderly Patient Post-Radiotherapy: A Case Report

ISSN: 2577-2007



***Corresponding author:** Wanhua Chen, Department of Clinical Laboratory, First Hospital of Quanzhou Affiliated to Fujian Medical University, China

Submission: May 05, 2025

Published: June 02, 2025

Volume 9 - Issue 3

How to cite this article: Wenjie Cai, Yayun Chen, Kaixin Li, Bingzhong Gao, Runzhi Mao and Wanhua Chen*. Sintilimab as an Effective Treatment for Recurrent Cutaneous Squamous Cell Carcinoma in an Elderly Patient Post-Radiotherapy: A Case Report. COJ Nurse Healthcare. 9(3). COJNH. 000712. 2025. DOI: [10.31031/COJNH.2025.09.000712](https://doi.org/10.31031/COJNH.2025.09.000712)

Copyright@ Wanhua Chen, This article is distributed under the terms of the Creative Commons Attribution 4.0 International License, which permits unrestricted use and redistribution provided that the original author and source are credited.

Wenjie Cai¹, Yayun Chen¹, Kaixin Li¹, Bingzhong Gao¹, Runzhi Mao¹ and Wanhua Chen^{2*}

¹Departments of Radiation Oncology, First Hospital of Quanzhou Affiliated to Fujian Medical University, Quanzhou, China

²Department of Clinical Laboratory, First Hospital of Quanzhou Affiliated to Fujian Medical University, China

Abstract

Introduction: Cutaneous Squamous Cell Carcinoma (cSCC) is a prevalent skin malignancy, with recurrent cases posing significant challenges, particularly in elderly patients. Immune checkpoint inhibitors, such as anti-PD-1 antibodies, have shown promise in advanced cSCC.

Objective: To report the efficacy and tolerability of Sintilimab, an anti-PD-1 monoclonal antibody, in an elderly patient with recurrent cSCC post-radiotherapy.

Research method: A case study was conducted on an 88-year-old female with recurrent stage III cSCC at Quanzhou First Hospital Affiliated to Fujian Medical University, Quanzhou, Fujian, China. She received Sintilimab (200mg intravenously every 21 days) for three cycles, with clinical outcomes assessed via physical examination and imaging.

Result: Sintilimab achieved significant tumor shrinkage and pain relief with excellent tolerability. No significant adverse effects were observed. The patient died of COVID-19, unrelated to her cancer treatment.

Keywords: Cutaneous squamous cell carcinoma; Sintilimab; Immunotherapy; Radiotherapy; Elderly; Recurrence

Introduction

Cutaneous Squamous Cell Carcinoma (cSCC) is the second most common skin cancer, accounting for approximately 20% of non-melanoma skin cancers [1]. While early-stage cSCC is often curable with surgery or radiotherapy, recurrent or locally advanced cases are challenging, particularly in elderly patients with comorbidities [2]. Immune checkpoint inhibitors, such as anti-programmed death-1 (PD-1) antibodies, have revolutionized advanced cSCC management [3]. Sintilimab, a humanized anti-PD-1 antibody, is effective in various cancers but less studied in cSCC [4,5]. This case report describes the successful use of Sintilimab in an elderly patient with recurrent cSCC post-radiotherapy.

Case Presentation

An 88-year-old female presented to Quanzhou First Hospital Affiliated to Fujian Medical University, Quanzhou, Fujian, China, in June 2021 with a six-month history of a right temporal ulcer. Biopsy (S202101006) confirmed cSCC, staged as T3N0M0 (stage III) per the American Joint Committee on Cancer (AJCC) 8th edition [1]. She underwent radical radiotherapy in June 2021 with the following parameters: gross tumor volume (GTV) was delineated by surface

markers of the right temporal mass; clinical target volume 1 (CTV1) was GTV plus a 2.0cm margin; CTV2 was GTV plus a 1.0cm margin; planning target volume (PTV) was CTV1 plus a 0.3cm margin; and PTV2 was CTV2 plus a 0.3cm margin. The prescribed dose was 95% of PTV (first stage) at 200cGy/fraction, 4000cGy/20 fractions, followed by 95% of PTV2 (second stage) at 200cGy/fraction, 2000cGy/10 fractions. Radiotherapy significantly reduced the tumor size (Figure 1 & 2).



Figure 1: Right temporal cSCC lesion before immunotherapy. The lesion is an elliptical protrusion of about 8cmx8cm in size and 1cm in height. A concave ulcer with surface scabbing and yellow exudate is visible in the center of the lesion.



Figure 2: Right temporal cSCC lesion after immunotherapy. The lesion shows a marked reduction in size and elevation. The patient reports an improvement in pain.

In September 2022, the patient was readmitted due to progressive enlargement of the right temporal mass for five months. Physical examination revealed an 8cmx8cm elliptical protrusion, approximately 1cm in height, with a central concave ulcer, surface scabbing, and minimal yellow exudate. A head CT scan confirmed a right temporal scalp mass. Biopsy confirmed recurrent cSCC (T3N0M0, stage III). After discussion with the patient and her family, she opted for Sintilimab (200mg intravenously every 21 days) due to economic considerations. She received three cycles on September 7, September 28, and October 26, 2022.

Sintilimab was well-tolerated, with no significant abnormalities in electrocardiogram, myocardial enzyme spectrum, or pituitary, adrenal, thyroid, and pancreatic functions. The tumor shrank significantly, and pain improved. Unfortunately, the patient died of COVID-19 on January 5, 2023, unrelated to her cancer treatment.

Discussion

Recurrent cSCC post-radiotherapy is difficult to manage, particularly in elderly patients who may not tolerate aggressive therapies [2]. Radiotherapy is effective for primary cSCC but has limited efficacy in recurrence [1]. Anti-PD-1 therapies, such as cemiplimab and pembrolizumab, have shown response rates of 40–50% in advanced cSCC [3,6]. Sintilimab, approved for various malignancies, offers a cost-effective alternative with a favorable safety profile [4,5]. In this case, Sintilimab induced tumor shrinkage and pain relief after three cycles, without notable toxicities, consistent with studies on anti-PD-1 safety in elderly patients [7].

The choice of Sintilimab was driven by its cost-effectiveness, a critical factor in resource-limited settings [8]. The absence of significant adverse effects supports its feasibility in elderly patients with comorbidities [9]. The patient's death from COVID-19 highlights the vulnerability of elderly cancer patients to infections, emphasizing the need for comprehensive supportive care during immunotherapy [10]. Limitations include the short follow-up period and inability to assess long-term outcomes due to the patient's death. The role of biomarkers, such as PD-L1 expression, in predicting Sintilimab response in cSCC requires further study [6]. Future research should explore optimal dosing and duration of Sintilimab for cSCC [5].

Conclusion

This case demonstrates Sintilimab's efficacy and tolerability in an 88-year-old patient with recurrent cSCC post-radiotherapy, achieving tumor reduction and symptom improvement. Sintilimab is a promising, cost-effective option for elderly patients with advanced cSCC, particularly in resource-limited settings. Larger clinical trials are needed to validate these findings and optimize immunotherapy for recurrent cSCC.

Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images.

Ethical Approval

This treatment and case report were approved by the Ethics Committee of Quanzhou First Hospital Affiliated to Fujian Medical University.

Conflicts of Interest

The author has no conflicts of interest to declare.

Funding

This work was supported by the Natural Science Foundation of Fujian Province (2023J011787).

References

1. Stratigos AJ, Garbe C, Dessinioti C, Lebbe C, Bataille V, et al. (2020) European interdisciplinary guideline on invasive squamous cell carcinoma of the skin: Part 1. epidemiology, diagnostics and prevention. *European Journal of Cancer* 128: 60-82.
2. Huang S, Jiang J, Wong HS, Zhu P, Ji X, et al. (2024) Global burden and prediction study of cutaneous squamous cell carcinoma from 1990 to 2030: A systematic analysis and comparison with China. *Journal of Global Health* 14: 04093.
3. Migden MR, Khushalani NI, Chang AL, Lewis KD, Schmults CD, et al. (2020) Cemiplimab in locally advanced cutaneous squamous cell carcinoma: Results from an open-label, phase 2, single-arm trial. *The Lancet Oncology* 21(2): 294-305.
4. Lu S, Wu L, Jian H, Cheng Y, Wang Q, et al. (2023) Sintilimab plus chemotherapy for patients with EGFR-mutated non-squamous non-small-cell lung cancer with disease progression after EGFR tyrosine-kinase inhibitor therapy (ORIENT-31): Second interim analysis from a double-blind, randomised, placebo-controlled, phase 3 trial. *The Lancet Respiratory Medicine* 11(7): 624-636.
5. Zhang L, Lin W, Tan F, Li N, Xue Q, et al. (2022) Sintilimab for the treatment of non-small cell lung cancer. *Biomarker Research* 10(1): 23.
6. Koch Hein EC, Vilbert M, Hirsch I, Fernando Ribeiro M, Muniz TP, et al. (2023) Immune checkpoint inhibitors in advanced cutaneous squamous cell carcinoma: real-world experience from a canadian comprehensive cancer centre. *Cancers* 15(17): 4312.
7. Jiang Y, Su Z (2019) Cancer immunotherapy efficacy and patients' age: A systematic review and meta-analysis. *Annals of Oncology* 30: ix154.
8. Zhang X, Fan X, Zhang J, Jiang F, Wu Y, et al. (2024) Cost-effectiveness analysis of the tislelizumab versus docetaxel for advanced or metastatic non-small-cell lung cancer in China. *Frontiers in Public Health* 12: 1425734.
9. McLean LS, Lim AM, Bressel M, Thai AA, Rischin D (2024) Real-world experience of immune-checkpoint inhibitors in older patients with advanced cutaneous squamous cell carcinoma. *Drugs & Aging* 41(3): 271-281.
10. Aryanian Z, Balighi K, Goodarzi A, Sadeghi Nia A, Afshar ZM, et al. (2023) The impact of the COVID-19 pandemic on the diagnosis and treatment of skin cancers, a mini review. *Cancer Reports* 6(9): e1854.