

Case Report

Open Access, Volume 4

Complete remission of a bulky tumor of the lip by PD-1-blockade in a very old patient

Bálint Tamaskovics^{1,2*}; Kimia Karimi¹; Christian Plettenberg³; Max Wilkat⁴; Judith Neuwahl¹; Wilfried Budach¹; Jan Haussmann¹

¹Department of Radiation Oncology, Medical Faculty and University Hospital Düsseldorf, Heinrich Heine University, Düsseldorf, Germany.

²Department of Particle Therapy, University Hospital Essen, West German Proton Therapy Centre Essen (WPE), West German Cancer Centre (WTZ), Essen, Germany.

³Department of Otorhinolaryngology and Head and Neck Surgery, Medical Faculty and University Hospital Düsseldorf, Heinrich Heine University, Düsseldorf, Germany.

⁴Department of Oral-, Maxillofacial and Facial Plastic Surgery, Medical Faculty and University Hospital Düsseldorf, Heinrich Heine University, Düsseldorf, Germany.

*Corresponding Author: Bálint Tamaskovics

Department of Radiation Oncology, Medical Faculty and University Hospital Düsseldorf, Heinrich Heine University, Düsseldorf, Germany.

Tel: +49-211-8116601;

Email: Balint.Tamaskovics@uni-duesseldorf.de

Received: Jan 03, 2023

Accepted: Jan 20, 2023

Published: Jan 27, 2023

Archived: www.jcimcr.org

Copyright: © Tamaskovics B (2023).

DOI: www.doi.org/10.52768/2766-7820/2260

Abstract

We present a case of successful programmed death ligand 1 inhibitor therapy of a recurrent exophytic bulky lip carcinoma. The frail, old-old patient had been ineligible for radical tumor resection or curative intended, high-dose chemoradiation. A palliative radiation therapy led to a near complete remission, although the tumor recurred nine months later. A checkpoint inhibition therapy has been initiated, which led in six months to a complete remission. The malignancy did not recur anymore. No immune mediated toxicity occurred. The patient died in eleven months after start of the immunotherapy in a severe infectious disease, uncorrelated to the malignancy. Although old and frail patients were underrepresented in the landmark trials for checkpoint inhibition, our case underlines that these patients could benefit from this therapy, with a preferable quality of life.

Keywords: rmHNSCC; Bulky tumor of the lip; Checkpoint-inhibition; Old-old; Frail; Complete remission.

Abbreviations: aCSCC: advanced cutaneous squamous cell carcinoma; COVID-19: Coronavirus Disease 2019; CPS: Combined Positivity Score; CR: Complete Remission; CT: Computed Tomography; CTCAE: Common Terminology Criteria For Adverse Events; ECOG: Eastern Cooperative Oncology Group; Gy: Gray; IDT: Interdisciplinary Tumor Board; IMAT: Intensity Modulated Arc Therapy; PD-1: Programmed Death Receptor 1; PD-L1: Programmed Death Receptor Ligand 1; PS: performance score; rmHNSCC : recurrent and/or metastatic squamous cell carcinoma of the head and neck; RT: Radiation Therapy.

Citation: Tamaskovics B, Karimi K, Plettenberg C, Wilkat M, Neuwahl J, et al. Complete remission of a bulky tumor of the lip by PD-1-blockade in a very old patient. *J Clin Images Med Case Rep.* 2023; 4(1): 2260.

Introduction

Programmed death receptor-1 (PD-1) inhibition is an emerging therapeutic option for patients with recurrent and/or metastatic squamous cell carcinoma of the head and neck (rmHNSCC) and also for patients with advanced cutaneous squamous cell carcinoma (aCSCC), who are not candidates for curative intended surgery or radiation therapy. Fragile elderly patients present usually with high ECOG performance score (PS), while $PS \leq 1$ had been an exclusion criterion in the pivotal trials. Therefore, the available knowledge of efficacy and safety for these patient cohort is insufficient. Hereby we report the therapy and favourable outcome of an old-old patient with a bulky lip tumor and impaired therapy adherence.

Case presentation

A 91 years old caucasian male was referred to our tertiary head and neck cancer center with a 8 x 4 x 4 cm bulky tumor mass of the lower lip in the first year of the COVID-19 pandemic [1], shown in Figure 1A. The tumor had been growing for about two years. The patient turned to the general practitioner when he developed severe eating difficulties.

Medical history consisted of diabetes mellitus type II, controlled hypertension, abdominal aortic aneurysm (with a maximal diameter of 45 mm), a cerebral ischemic event about 30 years before and age-related weakness. Charlson comorbidity index was 7, estimating a 10-years survival rate of 0%. Current medication at the time of the first appointment was met-amizole, taken irregularly for pain control. The patient ceased all other medication on his own responsibility decades ago.

The patient presented in reduced general conditions and normal nutrition status (76 kg, 176 cm, body mass index: 24.5, PS: 2). Body temperature, heart rate, oxygen saturation, respiratory rate and blood pressure were within normal limits. Intraoral examination was hindered by maximal mouth opening of 10 mm and revealed a poor dental status with strong fetor oris. The exophytic tumor mass was not intended to be painful, although impaired lip movement. Paroxysmal surface bleeding was reported by the patient. No other suspect cervical mass could be palpated.

Flexible laryngoscopy and biopsy were performed in our Department of Oral-, Maxillofacial and Facial Plastic Surgery. Histological examination showed an extensively necrotic, non-keratinizing, moderately differentiated (G2) squamous cell carcinoma. Because of the actual tumor mass and lack of recall, the initial tumor localization and the exact origin could not be determined. Oral mucosa and skin of the lower lip came up with comparable probability. CT scans of the head, thorax, and abdomen revealed no evidence of locoregional lymphatic or distance metastases (Figure 1B). No cortical bone erosion of the jaw was present.

Due to the reduced general condition, frailty, advanced age and possible serious consequences of a radical resection, the Interdisciplinary Tumor Board (IDT) recommended an upfront palliative therapy [2]. The patient underwent a radiation therapy of the tumor manifestation incl. 5 mm anatomically adapted clinical margin in an Intensity Modulated Arc Therapy (IMAT) technique. Although 12 fractions of 3 Gy have been prescribed,

the patient ceased radiation therapy against medical advice after the 11th fraction, reaching a cumulative dose of 33 Gy. On the last day of the radiation therapy the patient presented with low-grade toxicity: radiodermatitis CTCAE grade 1, fatigue CTCAE grade 1 and pain CTCAE grade 1. The bulky tumor mass was regredient with minimal residual finding (Figure 1C).

Nine months later the patient presented again, with a 4 x 3 x 3 cm large exophytic tumor mass on the left side of the lower lip (Figure 2A,B), centered exactly at the localization of the residue at the end of the former radiation therapy. A re-staging was performed, no metastasis has been revealed. Expression of programmed death receptor ligand-1 (PD-L1) has been examined; combined positivity score (CPS) was 90%. According to palliative situation and IDT advice, a checkpoint inhibitor therapy has been initiated.

After nine cycles of pembrolizumab 200 mg q3w, a complete remission (CR) was achieved (Figure 2C). No immune mediated toxicity has been evolved; the patient reported no quality-of-life alteration due to therapy. Although we intended to continue the checkpoint inhibition therapy for a year, eleven months after start of the therapy the patient died due to a serious urosepsis, without any evidence of a recurrent or metastatic disease.

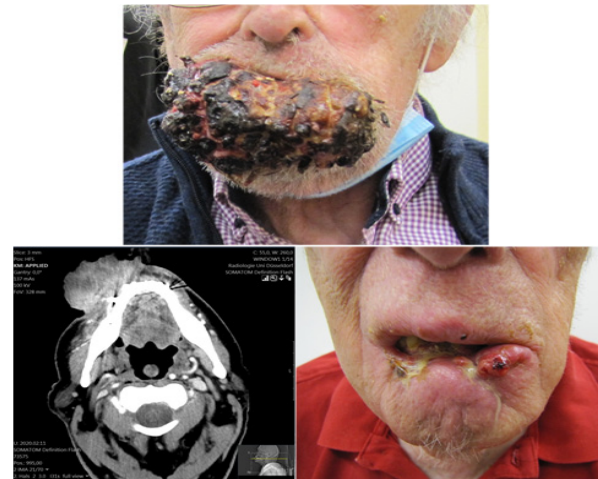


Figure 1: Clinical presentation (A) and representative CT image (B) of the bulky tumor mass of the lower lip before and after (C) the palliative radiation therapy.



Figure 2: Recurrent lip tumor (A) and representative CT image (B) at the initiation of the checkpoint inhibitor therapy and after nine cycles of pembrolizumab (C)

Discussion

Although the frail patient population was underrepresented in the landmark trials, real world data showing same therapeutic effect emerges [3,4]. Present case with a complete response underlies latter findings. An oncologic tumor resection might lead to relevant function loss and could require a comprehensive reconstruction. In the frail population, in the COVID-19-pandemic age an organ preserving approach could be feasible and efficient.

The squamous cell carcinoma could not have been further classified, both mucosal and cutaneous side of the lip could be a possible origin. PD-1-inhibitors were available in both cases: pembrolizumab (first line palliative therapy for rmHNSCC, CPS>1) [5,6] or cemiplimab (first line palliative therapy for aCSCC) [7]. We tended to recognize the tumor as of a mucosal origin, IDT accordingly recommended pembrolizumab. The very high PD-L1-expression level prognosed a favorable outcome.

As urogenital infection and urosepsis are not recognized as immune mediated toxicities, we assumed no causality to the cancer therapy. Although, the survival on immune checkpoint inhibition has been eleven months, about the reported median survival of the landmark trial.

Conclusions

PD-1-inhibition is a robust therapy modality, also eligible for elderly and frail patients. Enabling an organ- and functional preservation in the presented case with local recurrent lip carcinoma, the checkpoint inhibitor therapy was highly effective while preserving the good quality of life.

References

1. Matuschek C, Fischer JC, Combs SE, Fietkau R, Corradini S, et al. Measures of infection prevention and incidence of SARS-CoV-2 infections in cancer patients undergoing radiotherapy in Germany, Austria and Switzerland. *Strahlentherapie und Onkologie*. 2020; 196: 1068-1079.
2. Kretschmer E-M, Pavic M, Stark LS, Hertler C, Guckenberger M. Radiotherapy of the oldest old-feasibility and institutional analysis. *Strahlentherapie und Onkologie*. 2020; 196: 683-690.
3. Müller-Huesmann H, von der Heyde E, Hahn D, Langer C, Kubuschok B, Bockmühl U, et al. 924P HANNA: Effectiveness and quality-of-life data from a real-world study of patients with recurrent and/or metastatic squamous cell carcinoma of the head and neck (R/M SCCHN) treated with nivolumab in Germany. *Annals of Oncology*. 2021; 32: S813.
4. Langer C, von der Heyde E, Hahn DA, Kubuschok B, Bockmühl U, et al. 680P HANNA: Real-world data of patients with recurrent and/or metastatic squamous cell carcinoma of the head and neck (R/M SCCHN), including first-line population, treated with nivolumab in Germany. *Annals of Oncology*. 2022; 33: S854.
5. Burtneß B, Harrington KJ, Greil R, Soulières D, Tahara M, et al. Pembrolizumab alone or with chemotherapy versus cetuximab with chemotherapy for recurrent or metastatic squamous cell carcinoma of the head and neck (KEYNOTE-048): a randomised, open-label, phase 3 study. *Lancet*. 2019; 394: 1915-1928.
6. Harrington KJ, Burtneß B, Greil R, Soulières D, Tahara M, et al. Pembrolizumab With or Without Chemotherapy in Recurrent or Metastatic Head and Neck Squamous Cell Carcinoma: Updated Results of the Phase III KEYNOTE-048 Study. *J Clin Oncol*. 2022; Jco2102508.
7. Migden MR, Rischin D, Schmults CD, Guminski A, Hauschild A, et al. PD-1 Blockade with Cemiplimab in Advanced Cutaneous Squamous-Cell Carcinoma. *New England Journal of Medicine*. 2018; 379: 341-351.