

Transarterial Chemoembolization (TACE) in a Rare Case of Residual Sebaceous Carcinoma of the Parotid Gland: A Case Study

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Keywords:	Abstract
Sebaceous carcinoma; Parotid gland; <i>Transarterial Chemoembolization</i> ; Salivary gland cancer; Case report.	Salivary gland cancer is a rare neoplasm with very broad histopathological spectrum with highly diverse biological characteristics. In the rare situation, sebaceous cell-containing salivary gland neoplasma can be detected as a malignancy, or sebaceous carcinoma of salivary gland with parotid glands are the most organ involved. Surgical management remains the mainstay of therapy but Due to the limited availability of treatment guidelines for salivary gland cancer. <i>Transarterial Chemoembolization (TACE)</i> has begun to be developed as a potential management and can serve as an alternative therapeutic option alongside conventional treatments. The research aim to evaluate the effectiveness of TACE management in patients with sebaceous carcinoma of parotid glands. Retrospective data TACE patients from August 2024 to June 2025. The result TACE can reduce size of lump and ulcer in patient with sebaceous carcinoma of parotid. TACE demonstrated a measurable reduction in tumor size and ulceration in a patient with residual sebaceous carcinoma of the parotid gland who declined further surgery, suggesting that this modality may serve as a viable palliative or cytoreductive alternative in selected patients. TACE has emerged as one of the potential therapeutic options for patients with salivary gland cancer, particularly in cases where surgery is not feasible.

INTRODUCTION

Salivary gland cancer is a rare neoplasm. Globally, it accounts for no more than 1% to 5% of head and neck cancers (Geiger et al., 2021). The Indonesian Malignant Tumor Registration Agency recorded 120 cases in Sumatra, Java, Bali, and Kalimantan in 2005. In addition, between 2003 and 2007, 82 cases were reported at Dharmais Hospital (Jeferson et al., 2020). At Hasan Sadikin Hospital, a 10-year study on salivary gland cancer of the mucoepidermoid carcinoma type, conducted from January 2013 to December 2022, identified 86 cases. Given the relatively small number of cases, available research data remain limited, which in turn restricts the range of therapeutic management options that can be offered (Liu et al., 2022; Sanacora et al., 2017).

Salivary gland cancer has a very broad histopathological spectrum with highly diverse biological characteristics, posing a unique challenge for specialists, particularly oncologists, in determining appropriate treatment management. In the rare situation, sebaceous cell-containing salivary gland neoplasm can be detected as a malignancy, or sebaceous carcinoma of salivary gland with parotid glands are the most organ involved (Aggarwal et al., 2021; Effusions, 2021; Emmerson & Knox, 2018; Verhoeft et al., 2016).

Diagnosing salivary gland malignancies remains challenging because the clinical presentation often overlaps with that of benign lesions, and definitive diagnosis frequently depends on histopathological confirmation following biopsy or resection. According to the World Health Organization classification, salivary gland tumors encompass more than twenty distinct malignant subtypes, each carrying a different clinical course and prognosis. This heterogeneity means that management strategies validated for one histological subtype cannot be directly extrapolated to another, underscoring the importance of documenting individual cases such as sebaceous carcinoma to build the evidence base needed for future treatment guidelines.

Surgical management remains the mainstay of therapy for solid tumors, including salivary gland cancer, and several studies have reported that adjuvant radiotherapy provides favorable outcomes in advanced-stage cases. The role of systemic therapy in the form of chemotherapy for newly diagnosed cases, as well as for recurrent and metastatic cases, remains a subject of debate, as the behavior of salivary gland cancer depends on its histological type (Cantù, 2026; Di Villeneuve et al., 2020; Prost et al., 2024). Due to the limited availability of treatment guidelines for salivary gland cancer, chemotherapy may still be considered as a treatment option (Sama et al., 2022; Stenman et al., 2014).

Transarterial Chemoembolization (TACE) has begun to be developed as a potential management approach for head and neck malignancies, particularly in cases of salivary gland cancer (Gao et al., 2022). TACE can serve as an alternative therapeutic option alongside conventional treatments such as surgery, radiation, or chemotherapy, especially in advanced-stage or recurrent cases (Sembiring & Rizki, 2024; Stenman et al., 2014).

Given the extreme rarity of sebaceous carcinoma of the salivary gland, published data on outcomes following TACE for this specific subtype remain scarce, with most available evidence drawn from small case series or reports involving other histological types of head and neck malignancy. Documenting the clinical course of a patient with recurrent sebaceous carcinoma of the parotid gland who underwent TACE may therefore contribute meaningful clinical insight and help inform the future development of treatment guidelines for this uncommon tumor.

To evaluate the effectiveness of TACE management in patients with salivary gland cancer and to provide an overview of the potential use of TACE as a treatment modality for salivary gland cancer especially for subtype Sebaceous Carcinoma.

This research aims to evaluate the effectiveness of TACE management in patients with salivary gland cancer, specifically for the sebaceous carcinoma subtype, and to provide an overview of the potential use of TACE as a treatment modality for salivary gland cancer, particularly in cases where surgery is not feasible or declined by the patient. Theoretically, this research contributes to the limited body of literature on salivary gland malignancies by documenting a rare case of sebaceous carcinoma of the parotid gland managed with TACE, thereby expanding the understanding of alternative therapeutic approaches beyond conventional surgery, radiotherapy, and chemotherapy. It also adds to the growing evidence base for TACE application in head and neck malignancies, a field where this modality remains underutilized and understudied. Practically, this study provides clinical insights for oncologists and surgeons managing similar cases by demonstrating the potential of TACE as a palliative or cytoreductive option when standard surgical intervention is not feasible, particularly in

patients with recurrent disease or those who decline surgery. The findings may also help guide treatment decisions and inform the future development of management guidelines for this rare tumor subtype.

METHOD

The research was conducted using retrospective data TACE patients from August 2024 to June 2025. This study was designed as a retrospective case report, focusing on a patient with residual sebaceous carcinoma of the parotid gland who underwent *Transarterial Chemoembolization* at the Surgical Oncology Division, Department of Surgery, Dr. Hasan Sadikin General Hospital, Bandung, Indonesia.

Data were obtained through a review of the patient's medical records, including demographic characteristics, clinical presentation, histopathological findings, imaging results, the TACE treatment protocol and number of cycles administered, and clinical response following each procedure. Clinical response was assessed based on the reduction in size of the lump and ulcer, as observed on physical examination and photographic documentation before and after each TACE session.

RESULTS AND DISCUSSION

Along periode of August 2024 to June 2025, There were 63 patients who underwent TACE management, with 3 patients diagnosed with salivary gland cancer. Among these three cases, only 1 patient continued treatment, thereby providing an overview of the effectiveness of TACE administration.

Table 1. Patient Characteristics and TACE Treatment Summary

1.	Mrs. L	49	Sebaceous Carcinoma of Parotid Gland	2 cycle	On Therapy
2.	Mrs. E	48	Polymorphus Adenocarcinoma of Parotid Gland	1 cycle	Off Therapy
3.	Mrs. R	52	Polymorphus Adenocarcinoma of Parotid Gland	1 cycle	Off Therapy

Source: Patient medical records from Dr. Hasan Sadikin General Hospital, Bandung, Indonesia, August 2024–June 2025

Case:

Ny. L, A 49-year-old woman. In February 2024, patient came to hospital with lump on right preauricular and right palpebra. From Fine Needle Aspiration the result from the preauricular mass were parotid gland carcinoma. In March, patient got open biopsy of the mass of palpebra with the result were sebaceous carcinoma. In May, patient had undergone wide excision and the result of histopathology were sebaceous carcinoma of parotid gland and palpebra oculi dextra with tumor remain in incision border. Post operative, patient got radiotherapy because of the remain tumor and received 60 sessions of therapy.

2 months after last session of radiotherapy, patient visit the hospital with complaint of a lump with ulcer on the right preauricula that had been increasing in size and was not accompanied by pain. Patient have a biopsy from the lamp and ulcer. The result of biopsy were Carcinoma. Because of the condition of the scar and patiet denied to have an operation, she was planned for TACE. The result from first TACE was acceptable, down sizing the lump and ulcer. TACE had been performed twice, and the patient was scheduled for follow-up in September 2025 after the second TACE on June 3, 2025.



Figure 1. Clinical Photographs of the Patient (A) Before First TACE, (B) After First TACE, (C) Before Second TACE, (D) After Second TACE

Source: Patient medical records and clinical documentation from Dr. Hasan Sadikin General Hospital, Bandung, Indonesia, 2024–2025

From Mrs. L's case, good results were obtained from the first TACE, and the second TACE is expected to provide more optimal outcomes.

A sebaceous cell is a vacuolated clear cell involved mainly with the eyelids and occasionally with other skin sites and the normal parotid glands, submandibular glands, and sublingual glands (Geetha, 2023; Takada et al., 2015). Sebaceous adenoma, sebaceous lymphadenoma, SC, and sebaceous lymphadenocarcinoma originated from sebaceous cells are rarely tumorous. Though the origin of SC within the major salivary glands is unclear, SC has mainly been reported in the parotid glands. Because of its rarity, clinicopathological characteristics and histogenesis are not fully understood. The sebaceous cell is found to peak in the second and seventh decades of life, which parallels to the age of SC patients reported (Marnouche et al., 2016).

Generally, SC in the parotid gland presents as painless and slow growing, which results in tender swelling for several months or even years. Facial nerve palsy and pain in the mass is

usually a late event, and the mass is occasionally fixed to the skin. Metastasis may occur in the lung, brain, and regional lymph nodes (Marnouche et al., 2016; Takada et al., 2015).

Usually, a parotid tumor is evaluated by various examinations such as echograms, CT, MRI, FNA biopsy, radionuclide salivary scan imaging, and positron emission tomography. Because several kinds of malignant tumors arise in the parotid gland, imaging examinations alone cannot lead to the histological diagnosis. It is known that FNA is suitable to diagnose a benign tumor, but it is difficult to evaluate the exact histology in malignant tumors (Zbären et al., 2001).

SC in the parotid gland is classified as a moderate malignant carcinoma according to the 2005 WHO classification of salivary gland tumors. The rarity of the neoplasm means that the optimal treatments have yet to be established. In the reported cases, surgical treatment was performed in most cases. Seven out of the 19 operative cases reported (36.8%) have resulted in local recurrence and/or lymph node metastasis (MacFarlane et al., 1975). Out of the 19 operative cases, 9 were treated with radiotherapy considered as an adjuvant therapy (Shulman et al., 1973).

Transarterial Chemoembolization works by selectively delivering cytotoxic agents directly into the tumor-feeding artery while simultaneously inducing ischemia through embolization, thereby achieving a higher local drug concentration with comparatively less systemic toxicity than conventional intravenous chemotherapy. This mechanism makes TACE an attractive option for tumors located in anatomically accessible, richly vascularized regions such as the head and neck, particularly in patients who are poor surgical candidates or who decline further operative intervention, as was the case with our patient.

In the present case, the decision to pursue TACE was influenced by the patient's refusal of further surgery and the unfavorable condition of the previously irradiated field, both of which limited the feasibility of additional resection. The observed reduction in the size of the lump and ulcer after the first TACE session suggests that the procedure achieved a measurable degree of local tumor control, consistent with the palliative and cytoreductive role that TACE has been reported to play in other head and neck malignancies.

This report is limited by its single-case design and the relatively short follow-up period, which preclude conclusions regarding long-term tumor control, survival benefit, or the durability of the therapeutic response. Larger, multicenter studies with longer follow-up are needed to better define the role of TACE in the management of sebaceous carcinoma of the salivary gland and to establish standardized treatment protocols, including the optimal chemotherapeutic agents, embolization technique, and number of cycles.

CONCLUSION

Research on salivary gland cancer is very limited due to its rarity. Although there are limitations in management guidelines that pose challenges for oncologists, this opens up opportunities for alternative therapies beyond the general approaches of surgery, radiation, and conventional chemotherapy. TACE has emerged as one of the potential therapeutic options for patients with salivary gland cancer. Based on the case presented, TACE demonstrated a measurable reduction in tumor size and ulceration in a patient with residual sebaceous carcinoma of the parotid gland who declined further surgery, suggesting that this modality may

serve as a viable palliative or cytoreductive alternative in selected patients. However, the single-case design and short follow-up period preclude definitive conclusions regarding long-term efficacy, survival benefit, or durability of response. TACE should be considered as a treatment option for salivary gland cancer patients with recurrent or residual disease who are poor surgical candidates or decline surgery, though careful patient selection and multidisciplinary evaluation remain essential. Larger multicenter studies with longer follow-up are needed to establish standardized protocols and compare TACE outcomes with conventional treatments, while prospective studies incorporating quality-of-life and cost-effectiveness analyses would further inform clinical decision-making. Continued documentation of individual cases and international collaboration through tumor registries are recommended to strengthen the evidence base and ultimately improve outcomes for this rare malignancy.

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