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Case Report

Metachronous Tumors of the Left Parotid Gland and Temporal Bone: Literature Review Based on a Case Study at the Radiotherapy Department in Fès

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Abstract

This article describes the case of a 46-year-old patient with metachronous carcinomas: a parotid squamous cell carcinoma and a temporal basal cell carcinoma. The patient was treated with radiotherapy at a total dose of 70 Gy, resulting in tumor regression and symptom stability, despite side effects such as radiomucitis. This case emphasizes the importance of a multidisciplinary approach in managing metachronous tumors, especially when surgery is not feasible. Radiotherapy was effective in reducing tumor size and improving the patient's quality of life.

Introduction

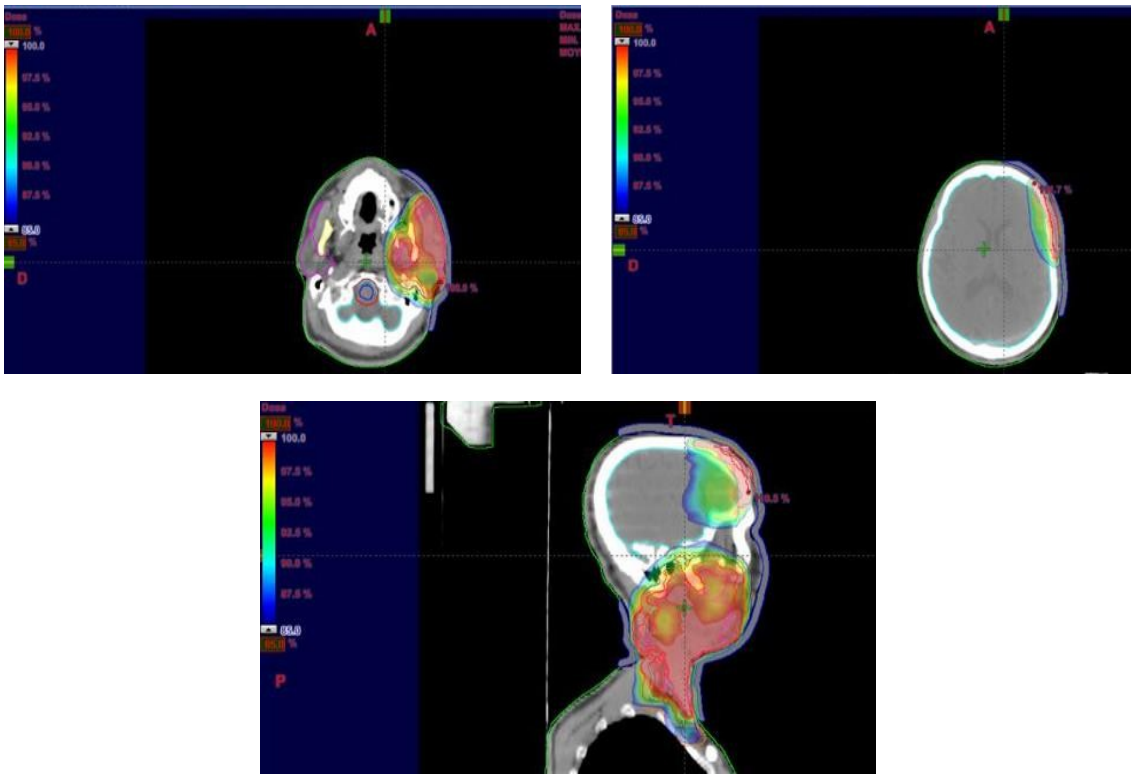
Metachronous tumors, defined as the successive occurrence of distinct primary cancers in the same patient, represent a significant clinical challenge in oncology [1–3]. Among these, parotid squamous cell carcinomas and cutaneous basal cell carcinomas (BCC) are noteworthy due to their histology and specific management [1,4]. The presence of these two carcinomas at different times in the same patient highlights the need for continuous monitoring and a multidisciplinary approach to optimize outcomes and minimize recurrence or new tumor development [4,5].

Clinical Observation

A 46-year-old patient with no significant medical history presented with two ulcerative lesions on his face. The first, in the left parotid gland, was ulcerative and budding, associated with progressive trismus over six months. The second, in the left temporal region, had been developing for eight months, with no systemic symptoms.

On examination, the patient was WHO 1, hemodynamically and respiratorily stable, and apyretic. Cervical and supraclavicular lymph node regions were clear. Cranio-thoracic CT revealed a locally advanced left parotid process without lymphadenopathy or distant metastases. Cervical MRI confirmed skin infiltration, involvement of intraparotid vascular pedicle, masseter, posterior belly of digastric, and infratemporal fossa, with no bone lysis.

Biopsies showed a well-differentiated squamous cell carcinoma in the parotid gland and an infiltrating basal cell carcinoma in the temporal region. Multidisciplinary consensus led to radiotherapy: 70 Gy in 35 fractions of 2 Gy using IMRT on both lesions with a 1 cm bolus on the temporal lesion over 60 days.



Here are the patient's dosimetric scan images.

Treatment was well tolerated, with grade 2 radiomucitis and mild infected skin erythema managed symptomatically. Post-radiotherapy MRI showed complete regression of the temporal lesion and 40% regression of the parotid lesion. Eighteen months after treatment, response remained stable.

Discussion

Non-melanoma skin cancers (NMSCs), primarily BCC and cutaneous squamous cell carcinoma (cSCC), constitute the majority of skin cancers in sun-exposed populations [6,7]. BCC accounts for 70–80% and cSCC for 20–25% of NMSCs [8].

Metachronous tumors, defined as a second primary malignancy occurring after the first, are rare but recognized in patients with a history of NMSC. The metachronous combination of BCC + cSCC in the head and neck region is uncommon and poorly documented [4,5,9]. Epidemiological and clinical knowledge allows formulation of practical recommendations [4,7].

Incidence:

BCC ranges ~360/100,000 in men and ~293/100,000 in women in the US [7]. cSCC is less common, ~77/100,000 in men and 34/100,000 in women in the UK [10]. Patients with prior NMSC have a 36% 5-year risk of a second primary tumor [11]. The head is particularly affected [4,8].

Median onset age is 60–70 years for BCC, slightly higher for cSCC, with male predominance [10,12]. Risk factors include chronic sun exposure, fair skin, previous skin tumors, immunosuppression, and scars or chronic lesions [6,9,12]. Our patient, aged 46, is younger than average, likely due to sun exposure.

Prognosis:

BCC has an excellent prognosis (<1% metastatic risk) [7]; head and neck cSCC has 2–5% lymph node metastasis risk, influenced by perineural invasion, depth, and immune status [10,11]. Metachronous NMSC requires close monitoring, reflecting an underlying cancer-prone environment [4,7].

Clinical presentation:

BCC appears as a translucent, pearly nodule, sometimes ulcerated with telangiectasia, often on the nose, forehead, or cheekbones [7,12]. SCC appears as a scaly, crusted, or ulcerated lesion progressing rapidly on photodamaged skin [5,10]. Imaging (CT, MRI, ultrasound, PET-CT) is advised for deep, perineural, or nodal invasion [9,13]. Our patient's lesions were ulcerative.

Histology:

BCC shows basaloid cell clusters with peripheral palisading and stromal retraction [7]. cSCC shows keratinization, intercellular bridges, and dermal infiltration [10]. The BCC–cSCC sequence may represent basosquamous carcinoma (BSC) with intermediate behavior [14].

Treatment:

Surgical excision with adequate margins, Mohs surgery for cosmetic/functional areas [12], radiotherapy for unresectable tumors, and Hedgehog pathway inhibitors for advanced BCC [15]. cSCC requires excision ≥6 mm, nodal management, and adjuvant radiotherapy depending on risk [10,13]. Each metachronous tumor must be treated as a new primary with complete evaluation and dermatological follow-up [4,7]. In our case, one lesion was inoperable, the other would require disfiguring surgery, thus radiotherapy was chosen.

Metachronous BCC + cSCC reflects a cancer-prone condition, often linked to age and sun exposure. Optimal management combines surgery, radiotherapy, vigilant follow-up, and sun protection.

Conclusion

Metachronous parotid and skin tumors, though rare, require a multidisciplinary approach. Radiotherapy, when surgery is not feasible, can induce effective tumor regression and symptom control. Personalized treatment strategies and regular follow-up improve quality of life and reduce the risk of new lesions.

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