A rare case of multiple cutaneous malignancies

Nazli ZAINUDDIN, Irfan MOHAMAD
Department of Otorhinolaryngology-Head & Neck surgery, School of Medical Sciences, Universiti Sains Malaysia Health Campus, Kelantan, Malaysia

ABSTRACT

Multiple primary malignancies of the upper aerodigestive tract occurring in the same patient are not commonly reported. The incidence varies from 1% to 20%. Second primary malignancy occurring at the same anatomical location is more common than those that arise from a distant location. We report a case of a 52-year-old Malay man who was previously treated for nasopharyngeal carcinoma with chemoradiotherapy and subsequently developed a basal cell carcinoma complicated by multiple recurrences and squamous cell carcinomas of the temporal region and the nose. Such an occurrence has not been previously reported in the literature.

Keywords: Basal cell carcinoma, nasopharyngeal carcinoma, treatment, second primary, squamous cell carcinoma

INTRODUCTION

Nasopharyngeal carcinoma (NPC) is prevalent in South-East Asia but is rare in the other part of the world.[2] Radiation therapy is currently the treatment of choice. Little is known about the occurrence of a second primary tumour in the head and neck region after curative radiotherapy for NPC. Prognosis is worst with the emergence of second primary tumours. We report the case of a 52-year-old Malay man who was previously treated for NPC with chemoradiotherapy and subsequently developed synchronous basal cell carcinoma (BCC) complicated by multiple recurrences and squamous cell carcinomas (SCC) of the temporal region and the nose.

Correspondence author: Nazli ZAINUDDIN
Department of Otorhinolaryngology-Head & Neck Surgery, School of Medical Sciences,
Universiti Sains Malaysia Health Campus,
16150 Kota Bharu, Kelantan, Malaysia.
Tel: +609 7673693
E mail: nazlizainuddin@yahoo.com

CASE REPORT

A 52-year-old fisherman with a background history of ischaemic heart disease, diabetes mellitus and hypertension initially presented to the Department in February 1996 complaining of persistent right nasal blockage and intermittent reduced hearing on right side. However no epistaxis or nasal discharge was reported. Clinical examination of the nose showed a fungating mass in the nasopharynx more on the right side. There were also palpable right level V lymph nodes consistent with metastatic disease. Biopsy from the

mass in the right nasopharynx confirmed the clinical diagnosis of NPC that was graded as undifferentiated squamous cell carcinoma (SCC). He completed chemoradiotherapy in November 1996.

He was followed-up for seven years before presenting with an ulcerated cutaneous lesion over the left side of nasal dorsum measuring 1cm x 1cm. Nasoendoscopic examination of the nasal cavities were normal. He underwent incisional biopsy. Histopathological examination confirmed the diagnosis of basal cell carcinoma (BCC) with a tumour free margin. Unfortunately, he defaulted the subsequent follow up.

He presented a year later (2004) with two new cutaneous lesions, one on the left side of nasal dorsum (same site like previous skin lesion), and another one on the right nasal dorsum. The left dorsum mass (1cm x 1cm) was bigger than right one (0.5cm x 0.5cm). A wide local excision and graft enhancement was done. Histopathological examination showed all tissue sections infiltrated by BCC confirming recurrence. The resection margins were free of tumour.

In May 2007, he presented again with a new lesion over the left side of nasal dorsum. He underwent excisional biopsy and histopathological examination showed malignant tumour arising from the epidermis, invading into the dermis. The tumour did not involve the surgical margins. The diagnosis was SCC. Subsequently, he was planned for radiotherapy but unfortunately, the patient again defaulted his oncology follow up. He came back a year later (2008) with complaining of a recurrent ulcer on the same side of the nasal dorsum slightly but. larger than the previous lesion. A wide excision and reconstruction with local flaps and free graft was planned but the surgery was postponed due to his cardiac problem. The patient was referred to Cardiology unit where an angiogram revealed disease of three vessels. He was offered angioplasty, but he declined.

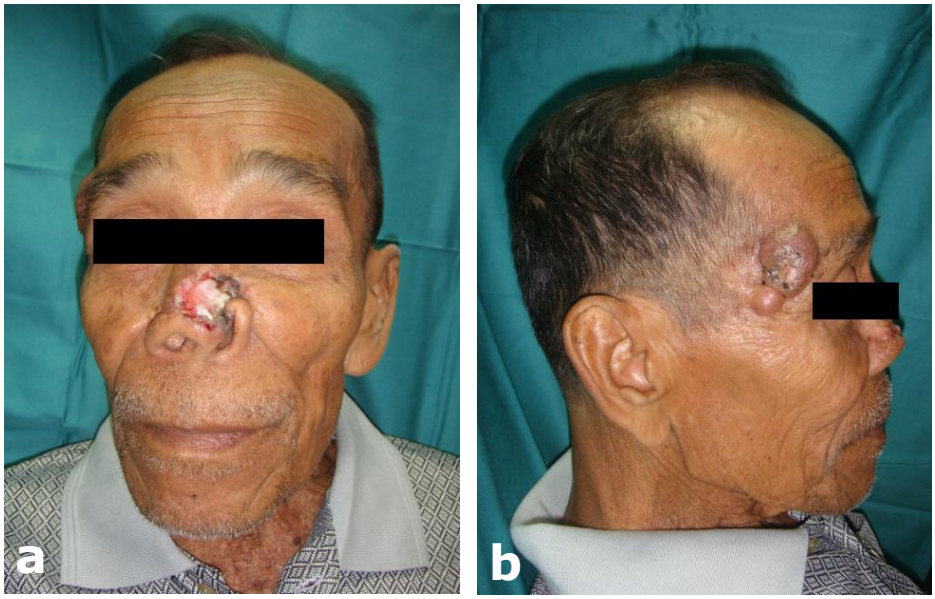

Fig. 1: a) Squamous cell carcinoma of nose, b) squamous cell carcinoma of temporal region.

He re-presented two years later (2010) with a painless ulcerated swelling over the right temporal region of two months duration, and a similar-sized lesion over the left side of the nostril. Nasoendoscopic examination revealed no growth in the nasal cavity. Biopsies taken from the lesions over the temporal region and nasal dorsum both revealed SCC. The patient was initially advised surgery, but he refused. He was subsequently counseled and finally agreed to undergo radiotherapy.

DISCUSSION

Patients with one form of carcinoma of head and neck region are known to be at high risk of developing a second tumour. [3] However, it is important to differentiate between *de novo* cancers from recurrence or metastasis as it impacts on the prognosis and subsequent management.

De novo cancer implies a solitary tumour, which is formed after long interval, usually more than five years. The location of the new tumour is usually not a typical site of metastatic spread of the first tumour. As for histology, *de novo* cancer normally has better differentiation compared to the initial tumour. Recurrences or metastatic tumours usually occur within a short period after the initial tumour. They can be multi-focal but with similar histology, increased anaplasia and a lack of *in situ* malignancy. [3] Based on these criteria, terminology of *de novo* cancer was preferred for our patient's BCC, which occurred in 2003 after he completed treatment for his NPC.

A cohort study conducted in Taiwan showed that NPC is strongly associated with a second primary tumour. [4] The incidence of non-melanoma skin cancer has been reported in the literature [5] (without description of specific site involved) but none of these papers have postulated the relationship between the two tumours. Hence, any association between NPC and nasal BCC remains unknown.

The most important risk for BCC is over exposure to ultraviolet radiation in patients with genetic predisposition. [11] Ultraviolet exposure is also a risk factor for SCC. However, there is no reported direct association between BCC and SCC. In our patient, his main risk was probably related to his work as a fisherman, which probably involved prolonged and repeated daily exposure to the sun. SCC is second most common skin cancer and, unlike BCC, certain SCC have metastatic potential and hence require aggressive treatment. [12]

Treatment of recurrent BCC is more difficult than the primary tumour. The cure rate is often low compared to those for primary BCC. [6] In our case, the probable reasons for recurrence were either tumour cells spillage on to the operative field or an incomplete excision. However, many prospectively and retrospectively studies have shown that even with histologically proven incomplete excision, the recurrence rate is only between 30% to 41%. This suggests that not all incompletely excised tumours will lead to recurrence. [7-10] However, it is important to note that lesions located in the facial region are at a higher risk for recurrence even when excised with wide surgical margins. [11]

Terminology used in the literature with respect to second primaries is variable.

Synchronous tumour is defined as any tumour that appears within six months of the index primary tumour, while those that appear later than six months are catergorised as metachronous tumours. Some authors grouped simultaneous tumours, which defined as tumours that were diagnosed at the same time as index primary, and synchronous tumour together. Some authors only categorise tumours as either simultaneous or metachronous. [13] As for our case, we could not comfortably exclude any possibility of other synchronous tumour due to his non-compliance with subsequent follow up.

To conclude, clinicians caring for patients diagnosed with malignancies may expect to be confronted with the subsequent emergence of a second and third tumour after having successfully cured a tumour. Presence of multiple malignancies not only has an impact on prognosis and subsequent management but also on the patient's quality of life. This can be attributed to the lack of a satisfactory outcome despite frequent visits to the hospital, multiple surgeries and radiation exposures.

REFERENCES

1: Donnelly MJ, O'Dwyer TP. Multiple primary carcinomas of the upper aerodigestive tract. Irish J Med Science 1993; 162:341-2.

2: Yu MC, Yuan JM. Epidemiology of nasopharyngeal carcinoma. Semin Cancer Biol. 2002: 12: 421-9.

3: Rolston R, Sasatomi E, Hunt J, Swalsky PA, Finkelstein SD. Distinguishing *de novo* second cancer formation from tumor recurrence. J Mol Diagn. 2001; 3:129-32.

4: Chen MC, Feng IJ, Lu CH, et al. The incidence and risk of second primary cancers in patients with nasopharyngeal carcinoma: a population-based study in Taiwan over a 25-year period (1979-2003). Ann Oncology 2008; 19:1180-6.

5: Scelo G, Boffetta P, Corbex M, et al. Second primary cancers in patients with nasopharyngeal carcinoma: a pooled analysis of 13 cancer registries. Cancer Causes Control. 2007; 18:269-78.

6: Rowe DE, Carroll RJ, Day CL. Mohs surgery is the treatment of choice for recurrent (previously treated) basal cell carcinoma. J Dermatol Surg Oncol 1989; 15:424-31.

7: Sussman LA, Liggins DF. Incomplete excised basal cell carcinoma: a retrospective audit. Aust NZ J Surg 2002; 72:219-21.

8: Richmond JD, Davie RM. The significance of incomplete excision in patients with basal cell carcinoma. Br J Plast Surg 1987; 40:63-7.

9: Park AJ, Strick M, Watson JD. Basal cell carcinoma: do they need to be followed up? J R Coll Surg Edinb 1994; 39:109-11.

10: De Silva SP, Dellon AL. Recurrence rate of positive margin basal cell carcinoma: results of a five-year prospective study. J Surg Oncol 1985; 28:72-4.

11: Telfer NR, Colver GB, Morton CA. Guidelines for the management of basal cell carcinoma. Brit J Dermatol. 2008; 159:35-48.

12: Goldman GD. Squamous cell cancer: a practical approach. Semin Cutaneous Med Surg 1998; 2:80-95.

13: McGuirt WF, Matthews B, Koufman JA. Multiple simultaneous tumours in patients with head and neck cancer: A prospective, sequential panendoscopic study. Cancer 1982; 50:1195-9.