

## Bilateral synchronous squamous cell tonsil carcinoma treated with chemoradiotherapy

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### Abstract

The incidence of numerous head and neck tumours is a known issue though bilateral synchronous tonsillar carcinoma reports are so uncommon that only 20 cases were found in a literature review. Most of these patients were treated with bilateral tonsillectomy followed by adjuvant radiotherapy. We report, to our knowledge, the first case of bilateral synchronous tonsillar squamous cell carcinoma treated only with chemoradiotherapy without tonsillectomy.

**Keywords:** Bilateral tonsil carcinoma, Chemoradiotherapy.

### Introduction

Squamous cell carcinoma (SCC) of the tonsil is the third most common malignant tumour in the head and neck area after thyroid and laryngeal carcinoma.<sup>1</sup> Men are affected 3-4 times more than women, and the occurrence increases after the 4th decade.<sup>2</sup>

Alcohol consumption and tobacco use are the most significant risk factors in maturing of tonsillar cancer.<sup>3</sup> Other risk factors include poor oral hygiene, mechanical irritation, chewing of betel quid preparations, lack of vegetables and fruits in diets and seropositivity of human papilloma virus (HPV) subtype 16.<sup>3-7</sup>

Presentations of the disease is usually with a throat soreness, dysphagia, tonsillar asymmetry, bleeding, or non-healing ulcer. Neck mass may be the first symptom as lymphatic spread is common, affecting 50% of patients at presentation.<sup>8</sup>

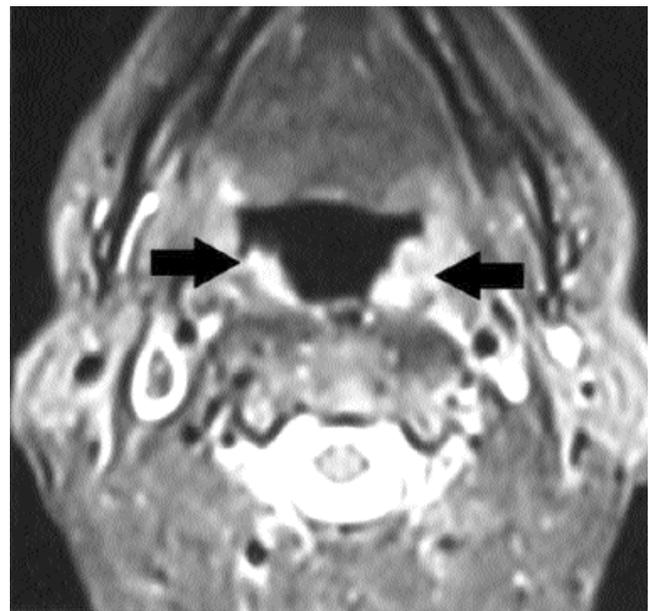
It is not uncommon for head and neck cancer patients to develop a second primary as there is about a 4% incidence of synchronous secondary tumours.<sup>9</sup> A secondary tumour is characterized as synchronous if it is diagnosed simultaneously or within 6 months of the primary tumour. If it is diagnosed after a period of 6 months it is called a metachronous tumour. The common

sites involved with synchronous and metachronous cancers are the hypopharynx, oropharynx, oral cavity and larynx.<sup>10</sup> In a period of 5 years after the treatment of tonsillar carcinoma a metachronous tumour occurs in approximately 15% of the patients.<sup>11</sup>

Current practice of tonsillar carcinoma is to perform tonsillectomy with or without radiotherapy. We present here what to our knowledge is the first case of bilateral synchronous tonsillar carcinoma without lymph node metastases treated with only chemoradiation.

### Case Report

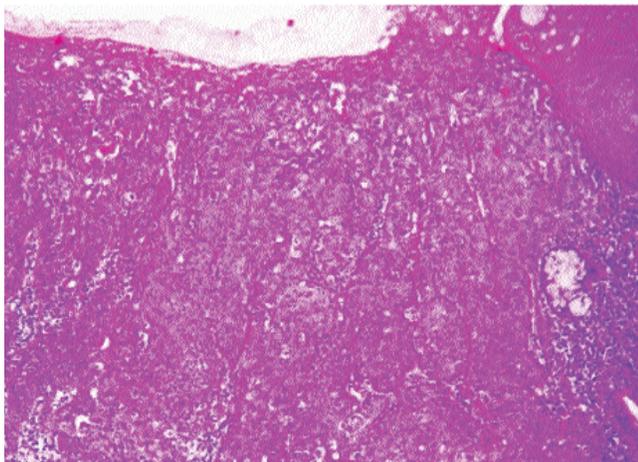
A 62-year-old man was referred to the Ear, Nose and Throat (ENT) Department with a 3-month history of odynophagia with solid food and soreness of the throat. He was a 30 package-year smoker and consumed alcohol. Physical examination showed a mass 3cm in diameter on the right tonsil extended and combined with the ulcerated mass 2cm in diameter on the left tonsil. The neck was clear of lymphadenopathy on palpation. Magnetic Resonance Imaging (MRI) of



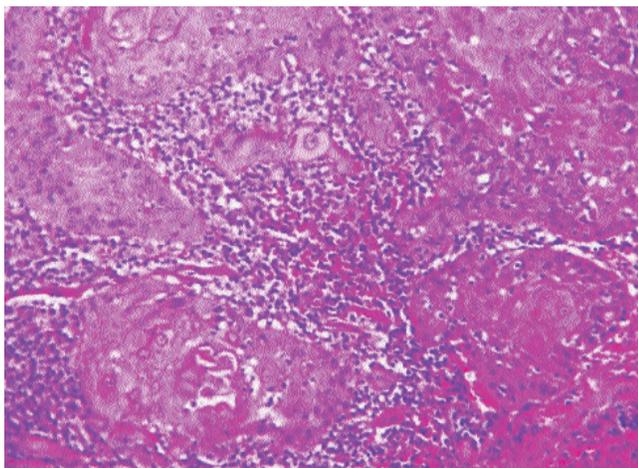
**Figure-1:** Magnetic Resonance Imaging of the patient showing the tumours in both tonsils.

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**Figure-2:** Microscopic appearance of invasive squamous cell carcinoma of the left tonsil (Hematoxylen and eosin; original magnification x100).



**Figure-3:** High-power view of the infiltrative nests of squamous cell carcinoma of the right tonsil (Haematoxylen and eosin; original magnification x200).

the neck revealed bilateral tonsillar mass which extended to hypopharynx and invaded pterygoid muscles on the left side (Figure-1). Bilateral tonsillar biopsy was done and histology confirmed both tonsils contained SCC (Figures-2 and 3). Thorax computerised tomography (CT) and abdomen ultrasound were clear of metastatic disease. Patients' unwillingness for surgery, extended tumour borders, and poor medical condition made him a poor candidate for surgery. Therefore, tonsillectomy was not performed. Subsequently, he presented in Radiation Oncology Department for therapy.

The patient was treated with chemoradiotherapy. Tonsils

were irradiated to 70 Gy in 35 fractions and bilateral neck to 50 Gy in 25 fractions with 3-D conformal radiotherapy. Concomitant cisplatinium (100 mg/m<sup>2</sup> on days 1, 22, and 43) and amifostine (200 mg/m<sup>2</sup>/day) were also applied. During chemoradiotherapy the patients suffered from grade 2 mucositis and grade 2 xerostomia, but completed the radiotherapy course without any break. He was free of disease after 58-month follow-up.

## Discussion

Head and neck cancer patients have a high risk of developing a second primary head and neck malignancy. This has been quantified as up to 3.6% per year and leads to excess mortality of 5.2% per year.<sup>12</sup> Synchronous cancers occur in 4% of head and neck cancers.<sup>9</sup>

A metachronous malignancy occurs in about 15% of tonsillar cancer patients.<sup>11</sup> About 4% of cases with Head and Neck (H&N) malignancy develop a subsequent tumour in tonsil. The most common localisation for an occult primary H&N malignancy is tonsillar fossa.<sup>13</sup>

Bilateral synchronous tonsillar carcinoma is such an uncommon circumstance that only 20 cases have been described as yet. Synchronous tonsillar cancer in literature is usually mentioned with lymph node metastases.<sup>14</sup> Most of the patients were presented with cervical lymph node metastases from unknown primary.

Radiotherapy with or without chemotherapy plays an important role in tonsil carcinoma. Use of radiation therapy without surgery is becoming more common with increasingly complicated radiotherapy techniques and organ preservation approach. Especially in head and neck cancer patients, intensity modulated radiotherapy (IMRT) considerably decreases the toxicity on the nearby organs at risk. Locoregional control and cause-specific survival may be up to 91% and 75% with chemoradiation, respectively, even in locally advanced patients.<sup>15</sup>

## Conclusion

In literature, only 20 cases with bilateral synchronous tonsillar carcinoma have been reported. Therefore, the real incidence is unknown. Bilateral tonsillectomy is frequently preferred in eligible cases, but chemoradiation is also an acceptable option in treatment strategy.

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