ORIGINAL RESEARCH PAPER

Oncology/Radiotherapy

A RARE CASE OF CARCINOMA OROPHARYNX WITH SYNCHRONOUS PRIMARY LARYNX- A CASE REPORT

KEY WORDS: Carcinoma oropharynx, carcinoma larynx, synchronous primary

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ABSTRACT

This is the case report of a 60 year old patient presented with hoarsness of voice, evaluated by ENT examination was found to have two primaries, in larynx and oropharynx.Treated with concurrent chemoradiation with three weekly cisplatin and radiation dose of 66Gy/30# to both primaries and positive nodes and nodal station .60Gy/30# to other lymph node stations with 6 MV IMRT. The case being reported here is unusual as the index tumour is in the oropharynx which is the least common site when compared with other studies and Synchronous primary tumours with primaries in oropharynx and larynx has not yet reported.

INTRODUCTION

Head and neck region have a global incidence between 400,000 and 600,000 new cases per year and 223,000 and 300,000 yearly deaths[1]. They are the sixth leading human cancer worldwide[2]. More than 90% of these cancers arise from the mucosal surfaces of the oral cavity, oropharynx and larynx[3-4].

Carcinoma oropharynx constitute 10% of annual incidence of head and neck cancers[5], where the incidence of carcinoma oropharynx is increasing despite decrease in overall head and neck cancer incidence. In India oropharyngeal cancer is the 18th most common cancer with incidence of 1.6%[6].

Oropharyngeal cancers have predilection of submucous extension and are seen as erythematous region without distinct border or ulceration.

They have lymphatic spread to level 1,2,3 and 4 cervical lymph nodes with 0.3% skip metastasis. Distant metastasis is uncommon and is seen in about 4- 26% of patients during the whole course of disease where the most common site is lung and then comes bone and liver[7].

Highest risk of second primary cancer is in head and neck followed by esophagus and lung[8].Second primary cancers are the leading cause of death in patients with head and neck cancers. Oropharyngeal cancers have lowest risk of second primary cancer.

Multiple malignancies can be of two types; synchronous (second primary neoplasm (SPN) is diagnosed within 2-6 months of diagnosis of index tumour) or metachronous (second primary tumour is diagnosed 6 months following diagnosis of primary tumour)[9-10]. 46.9% patients with second primary head and neck present as synchronous[11].

Synchronous malignancies in head and neck cancers are mainly due to field cancerisation and oncogenic viruses. In patients with squamous cell carcinoma of head and neck the index cancer site and smoking status effect the risk and distribution of second primary malignancy.

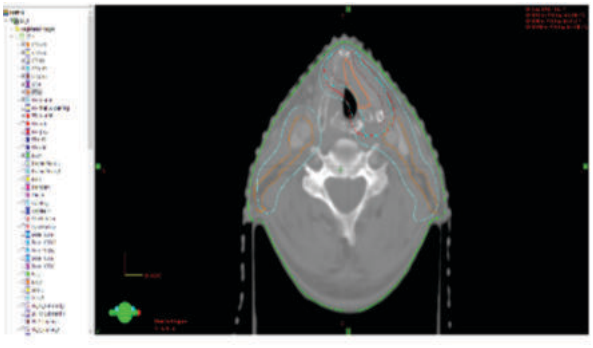

Figure 1: Contour of lesion treated with IMRT at the level of larynx

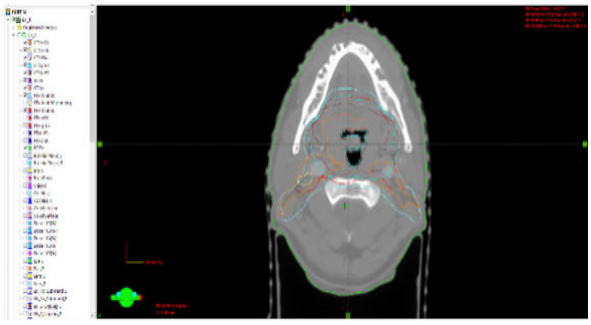

Figure 2: Contour of lesion treated with IMRT at the level of oropharynx

Case Description

61 year old chronic smoker and alcoholic with pack year 40 presented with complaints of hoarsness of voice for 3 months. There was no associated symptoms including throat pain, dysphagia, odynophagia, noisy breathing, ear ache, breathlessness, foreign body sensation in throat, difficulty in hearing. There was no associated systemic symptoms including cough, hemoptysis, neck pain ,back pain, swelling in neck or elsewhere in the body, visual symptoms, headache, bone pain. There was no associated loss of weight and loss of appetite.

He was evaluated in a nearby hospital with ENT examination suggestive of irregular growth in bilateral posterior pillar and under surface of uvula and pharyngeal arch. Video laryngoscopy was suggestive of slough covered whitish growth in left entire length of true vocal cord with impaired mobility of left vocal cord. On neck examination patient had a 2x2cm firm mobile right level 2 lymph node.

He underwent a direct laryngoscopy and biopsy from the laryngeal lesion and a biopsy from the oropharyngeal lesion. Histopathology is suggestive of squamous cell carcinoma well differentiated. Patient was referred to our centre for further evaluation and management. He was further evaluated from our centre with and MRI neck suggestive of a 2x1.8x1.6 cm ill-defined nodular mass in the lower part of soft palate more on right side with lesion extending to tonsillar region on right side suggestive of carcinoma soft palate. Bilateral palatine tonsils were bulky and a soft tissue thickening of left vocal cord with irregular surface was seen suggested skip metastasis. Few enlarged deep cervical lymph nodes were noted at level 1b and 2 on right side and largest was 2.3x

1.9cm with few enhancing lymph node at level 1b and 2 on left side. CECT thorax was done suggestive of no lung metastasis.

Patient was diagnosed as Carcinoma soft palate extending to tonsil on right with regional lymph node metastasis and a synchronous primary larynx. TNM stage- cT2N2bM1- IV.

Patient was planned for neoadjuvant chemotherapy with TPF(docetaxel 75mg/m2 D1, cisplatin 75mg/m2 D1, 5FU 1000mg/m2 D1-2) 2-3 cycles followed by radical concurrent chemoradiation. Patient after completion of first cycle of TPF chemo had complaints of chest discomfort and ECG change suggestive of T inversion in V2 and was diagnosed with NSTEMI and was treated for the same. So further cycles of chemotherapy was deferred and was started on radical CCRT.

Radical radiation 66Gy/30# was given to GTV primary, GTV nodes and 60Gy/30# to other lymph node stations with IMRT with 6MV photons.

GTV PRIMARY- soft palate lesion extending to tonsil and left vocal cord
GTV NODE- enlarged positive lymph node
CTV PRIMARY- GTV primary+ 1cm
CTV NODE- GTV node + 1cm
PTV PRIMARY- CTV primary + 0.5cm
PTV NODE- CTV node + 0.5cm

Dose-
PTV PRIMARY+ PTV NODE + RIGHT LEVEL 1B+ RIGHT LEVEL 2= 66Gy/30#

Right level 3+ right level 4+ level 1a +left level 1b, 2, 3 = 60Gy/30#

Concurrent cisplatin chemotherapy given with 100mg/m2 dose three weekly schedule on D1 and D22

On completion of treatment patient had grade 1 RT reaction and grade 2 oral mucositis with maintained general condition and well fed through the ryles tube.

A videolaryngoscopy was done after 1.5 months and 6 months of completion of treatment which was within normal limits and no lymph node was palpable in the neck. Suggesting patient has completed 6 months post treatment with no evidence of recurrence or residual disease.

DISCUSSION AND CONCLUSION

The first case of synchronous cancers was reported by Billroth in 1889. That was a case of stomach cancer and second primary in external ear. Incidence of synchronous primary larynx is 0.6% and primary oropharynx is 0.3%[12]. Few case reports are seen in the literature on head and neck synchronous primary cancers.

The criteria used for diagnosis of multiple primary cancers was first given by Warren and Gates includes:

1. Each of the tumours must be malignant and confirmed on histology
2. Each must be geographically separate and distinct.
3. The lesions should be separated by normal mucosa and Probability of one being the metastasis of the other must be excluded

Development of multiple malignant lesions can be explained by the phenomenon of "field of cancerization". Tobacco is a common risk factor responsible for the occurrence of both oropharyngeal carcinoma and laryngeal carcinoma and our reported case can be explained by theory of the "field of cancerization".

A study with 851 patients with head and neck cancer, incidence of primary head and neck cancer is 19% of which 41% are synchronous tumours and 59% are metachronus tumours[5]. 46% in base of tongue, 34% in pyriform sinus, 23% in larynx, 18% in oral cavity, 15% in tonsil and 10% in oral tongue had a second primary.

Tobacco smoking and alcohol intake was statistically significant in predicting likelihood of developing second malignancy. 8% non smokers vs 26% smokers with less than or equal to 20 pack years, 42% with more than 20 but less than and equal to 40 pack years and 30% with more than 40 pack years had incidence of second primary. 5% drinkers vs 32% non drinkers had incidence of second primary.

In a retrospective study about distant metastasis and synchronous malignancies on FDG PET/CT in patients with head and neck cancer was suggestive of low frequency of synchronous malignancy (4.2%) in primary head and neck cancer and less metastasis(3%)[13]

Case report of synchronous ca buccal mucosa and larynx is also reported where patient was treated with excision and total laryngectomy followed by external beam radiotherapy[14]. Synchronous dual malignancy of larynx with hepatocellular carcinoma and with intrahepatic cholangiocarcinoma is also reported[15].

In our case this patient has tumours at two sites that is oropharynx and larynx. Eventhough MRI suggests the presence of drop metastasis to larynx from oropharynx, literature shows no evidence for drop metastasis in head and neck squamous cell carcinoma. Drop metastasis are common in intracranial malignancies with intradural extramedullary spinal metastasis. So possibility of a synchronous primary can be considered

The case being reported here is unusual as: (a) In our case the index tumour is in the oropharynx which is the least common site when compared with other studies. (b) synchronous primary tumours with primaries in oropharynx and larynx has not yet reported.

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