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Case Report

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Carcinoma of Pyriform Fossa with Mediastinal Metastasis Successfully Treated with Chemoradiotherapy

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Introduction

Pyriform sinus is the most common subsite of hypopharyngeal tumors and squamous cell carcinoma sub-type accounts for 70% of all hypopharyngeal cancers [1]. It has the worst prognosis among head and neck cancers. Pyriform sinus is an area that allows tumors to grow silently. Thus, an only a small number of patients present in early stage [2,3]. Distant metastasis from head and neck carcinomas are uncommon. The most common sites of distant metastasis are lung, liver, kidney, and adrenals. Distant metastasis in hypopharyngeal cancer to lung, mediastinum, bone develops in 20-40 % patients within nine months of diagnosis and survival is usually less than one year after metastasis is detected [4]. Here we report a case of squamous cell carcinoma of the pyriform sinus with mediastinal metastasis treated with.

Case Report

A 67-year-old male patient presented with complaint of dysphagia to solids for a duration of one month associated with change in the voice. Patient denied any pain, dyspnea, or weight loss. He was a chronic smoker with a 50 pack-year for 15 years and an alcoholic for 10 years. Flexible laryngoscopy under local anesthesia revealed a small 2.5 cm x 2 cm ulcerative lesion in the right pyriform sinus extending up to the level of crico-pharynx. Under largyngoscopic visualization biopsy was taken. Histopathological exam of the specimen showed squamous cell carcinoma. CECT neck and CT chest showed an enhancing hypodense 2.1 x 1.2 cm lesion in right pyriform sinus, extends inferiorly to involve the aryepiglottic folds. Superiorly there is no involvement of vallecula or epiglottis.

Laterally the fat planes with carotid are maintained and medially lesion does not cross the midline. Multiple well defined hypodense oval lesions in bilateral upper, middle; lower jugular region largest of size 1.2 cm x 1 cm was also noted. In thorax well-defined lesion of size 4 cm x 3.6 cm x 3.4 cm in anterior mediastinum on the left side was seen (Figure 2). Fat planes between lesion and aorta maintained but the fat plane between the lesion and left brachiocephalic trunk was not visualized well on CECT Neck. The suspicious mediastinal mass was further evaluated with CT guided FNAC and the histopathological exam reported it to be metastatic squamous cell carcinoma (Figure 1).

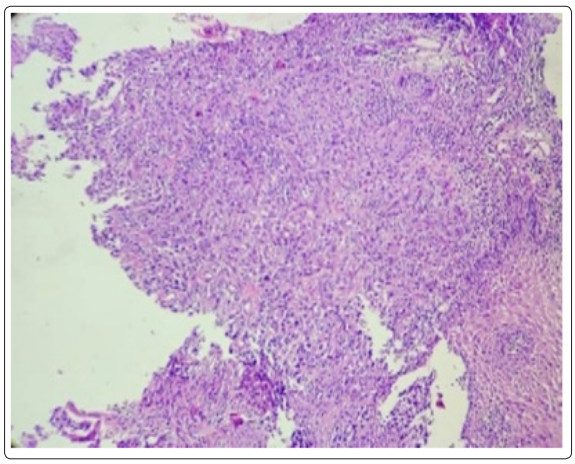

Figure 1: FNAC from mediastinal mass hematoxylin and eosin staining showing features of SCC

Figure 2: Pretreatment CECT showing well defined lesion in anterior mediastinum on left site

After complete diagnostic workup, patient was staged as cT2 N02c M1 (IVC) according to 2017 AJCC staging. Decision was made to treat the patient with radical intent. Three cycles neoadjuvant chemotherapy were given with nano paclitaxel (100mg D1) + cisplatin (30mg D1-D5) + 5 FU (820 mg D1-D5). After that, he was planned for EBRT to the neck by 6 mv photon and to the anterior chest wall using 18 MeV electrons. Department of radiotherapy was equipped with a linear accelerator without a CT simulator so the 2D technique was used. For primary lesion bilateral parallel opposed fields were planned to include regional lymph nodes.

Radiotherapy dose of 70Gy/35Gy was prescribed to the midplane using a shrinking field technique. For mediastinal mass single direct field was planned to use a 6 cm x 6 cm electron applicator was used. Radiotherapy dose of 50Gy/25Gy was prescribed at the depth of 6 cm. The patient had successfully received radiotherapy of 60Gy/30Gy, and he discontinued radiotherapy after 30 days due to unbearable acute toxicities grade III mucositis and Grade III skin reaction. CECT neck and chest were done after 6 weeks of treatment which has shown complete response of primary and metastatic lesion on assessment for therapeutic response (Figure 3). For confirmation of response, PET-CT scan was done three months later which has shown complete metabolic response (Figure 4). The patient recovered from complications and is on regular follow up. At the end of the follow up of 30 months, there is no evidence of recurrence.

Figure 3: Post treatment CT scan – showing reduced size and enhancement mediastinal mass

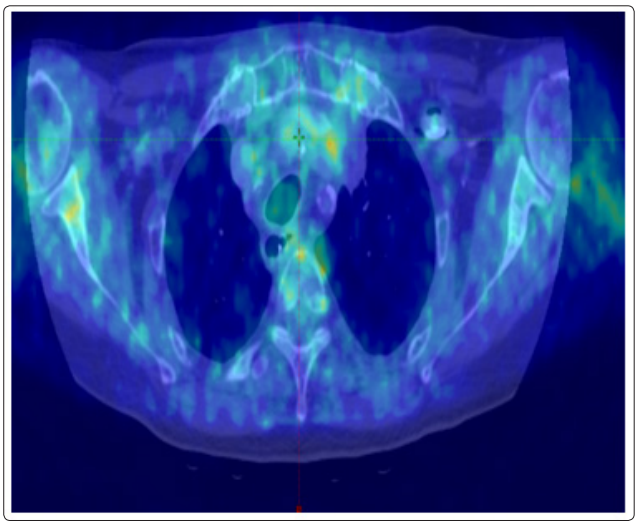

Figure 4: Post treatment PET-CT showing a complete metabolic response of mediastinal lesion

Discussion

Carcinomas originating in the hypopharynx are uncommon with high propensity to present in advanced stage due to the delayed onset of symptoms. Regional nodal metastasis at the time of presentation is more common due to rich lymphatics of hypopharynx. Small proportion of patients present with distant metastasis. Distant metastasis in SCC of head and neck cancer ranges from 4.3% - 30% [5]. Lungs are the most common site of metastasis followed by bone and liver [6]. Limited literature is available on management of ca pyriform fossa with anterior mediastinal mass. Patient specific approach is recommended in such patients. Conformal radiotherapy using CT based planning with PET-CT fusion would be a better option to treat this patient with dose escalation.

Spector G.J reported 17.6% incidence of distant metastasis from carcinoma pyriform sinus [7]. Five-year disease specific survival was 6.4%. As incidence of distant metastasis is low as compared to other cancer types such as breast and lung cancer, distant metastasis is a major determinant in prognosis and management [8]. Advancement in the management of patients with distant metastasis does not significantly improve overall survival in past 20 years. Some studies have shown benefit for aggressive local therapy [9]. Oligomestatic patients were treated with surgery or SBRT depending on disease burden have reported poor prognosis as well [9].

In the present case old age, high local disease, synchronous distant metastases were predictors of poor prognosis. Non availability of CT simulator and SBRT were resource challenges to deliver radical dose of 66-70Gy with limiting normal tissue toxicity. As per departmental protocol patient was given NACT for with nano-paclitaxel, cisplatin, 5FU after that he developed severe neutropenia that was managed conservatively. Chemotherapy was changed to nano-paclitaxel with carboplatin for next two cycles. After completion of chemotherapy, he received 60Gy/30# to primary lesion and 50Gy/25Gy to metastatic lesion. Despite the lesser dose received compared to radical dose a complete response was achieved. At the end of close follow up period of 30 months patient is disease free and is still under active surveillance.

Conclusion

Squamous cell carcinoma of hypo pharynx is well responding to chemo radiotherapy. Limited metastatic disease can be completely cured using multimodality treatment. A radical approach can be adopted in this presentation which is inherently considered as palliative and patient can be given a chance to be disease free with good quality of life.

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