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Case Report

Active pulmonary Koch's in a locally advanced recurrent head and neck malignancy: a case report

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ABSTRACT

Even though the global incidence of tuberculosis (TB) has been showing a declining trend every year, it is still a significant public health problem in India. On the other hand, cancer has also been the reason for considerable mortality and morbidity across this population. The incidence of TB has been reportedly increasing in patients with both pulmonary and non-pulmonary cancers. Incidence of pulmonary TB in head and neck malignancy is around 3.1% to 6.6%. We present a case history of 50 years old with locally advanced recurrent head and neck malignancy with active pulmonary Koch's. The decision was to provide him supportive care and treating the infection was pragmatic in spite of expected delay in anti-cancer treatment. It is extremely important to come up with a proper protocol for the need of prophylactic treatment, detection and the concurrent treatment of both cancer and TB.

Keywords: Koch's, Palliative care, Head and neck cancer

INTRODUCTION

Even though the global incidence of tuberculosis (TB) has been showing a declining trend every year, it is still a significant public health problem in India.[1] On the other hand, cancer has also been the reason for considerable mortality and morbidity across this population.[2] The incidence of TB has been reportedly increasing in patients with both pulmonary and non-pulmonary cancers.[3-5]

Various case reports and case series report that the incidence of pulmonary TB among head and neck malignancy to be 3.1% to 6.6%.[6,7] Among the six studies systematically reviewed by Cheng et al it was reported that head and neck malignancies were the second most common after hematological malignancy to be associated with TB.[8] The present case is about an active pulmonary TB in a locally advanced recurrent head and neck malignancy.

CASE REPORT

We present a 50 years old male, farmer by profession, with an addiction history of tobacco chewing since, 30 years with no relevant medical and family history visited the department of head and neck oncology (HNO) with the chief complaint of non-healing ulcer in the oral cavity and difficulty in swallowing. After detailed physical and histopathological examination, he was diagnosed to be clinical T4N0M0 (stage IV) Squamous cell carcinoma (SCC) of tonsil. He underwent radical intent concurrent chemo-radiation of 66 grey in 33 fractions (Intensity modulated radiotherapy) along with weekly concurrent cisplatin chemotherapy in 2017. He was having loco-regional control during follow up visits. In February 2020, he presented to the HNO department with difficulty in mouth opening with irregular ulcerative mucosa over left Retromolar trigone (RMT). The imaging of neck showed a soft tissue mass involving left RMT, buccal mucosa and

lower alveolus with infiltration into pterygoid musculature. A biopsy was performed, which was reported to be well differentiated SCC. He underwent left bite composite resection (upper alveolectomy and posterior segmental mandibulectomy), left modified radical neck dissection with pectoralis major myocutaneous flap reconstruction. The histopathological examination was T2N0 moderately differentiated SCC. In July 2020, the patient was found to have an ulcer over previously operated left inner side of cheek with significant weight loss and anorexia. Follow up imaging suggested that it was recurrence in the infra temporal fossa abutting left lateral oropharyngeal wall (Figure 1). As a part of screening of metastases, the patient underwent computed tomography (CT) chest and it showed tree branching appearance over the left upper and middle lobe suggesting of an infective pathology (Figure 2).

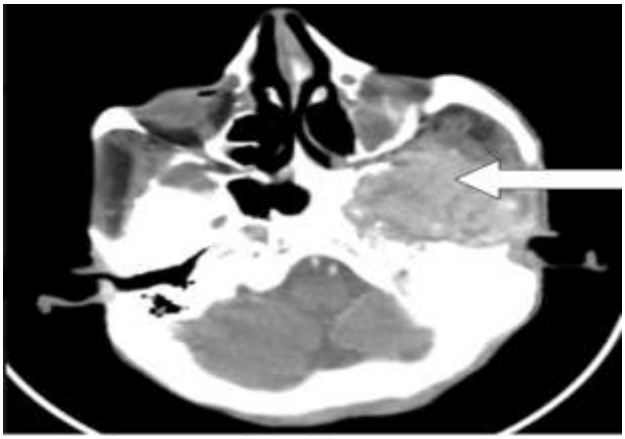

Figure 1: CT scan of mass in infra temporal fossa.

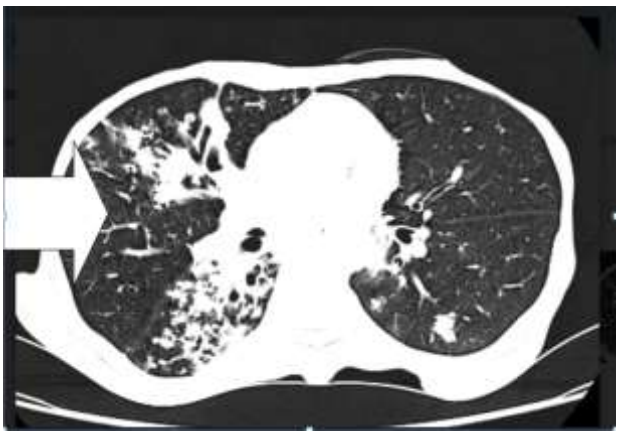

Figure 2: CT chest of tree budding appearance of the chest lesion.

The palliative care department admitted the patient and supportive care was initiated. In lieu of the current pandemic, a Reverse transcriptase polymerase chain reaction (RT-PCR) test for COVID-19 nucleic acid was performed and was found to be negative. To confirm the etiology of the chest lesion, bronchoalveolar lavage was done. The lavage was sent for Cartridge-based nucleic acid amplification test (CB-NAAT) and was found to be positive. After the patient's rehabilitation at our center, the patient was discharged with reference for initiation of anti-tubercular treatment. We, at our center, took a multi-disciplinary team discussion on the case and decided to treat the TB first. Further, it was decided that, if the performance status of the patient improved and the intensive phase of the patient's treatment gets over, there was a plan for palliative chemotherapy. Unfortunately, after 15 days of discharge of the patient, the patient suffered a cardio respiratory arrest and succumbed at his residence.

DISCUSSION

Cancer and treatment related to cancers are a basket category for immunocompromised states. It is of paramount importance that these patients with low immunity have to be taken utmost care of. Risk of infections like TB becomes more among cancer patients.[3,5] A study reported that presence of head and neck malignancy was significantly associated with increased mortality of pulmonary TB (Hazard ratio=2.90) when compared to non-cancer patients.[9] Due to the various oncological advancements, the average lifespan of a cancer patient has increased, making these patients more susceptible to acquiring TB.[10] The risk for TB in patients with a malignancy might be due to immunosuppression from cancer itself or the chemotherapy and local structural changes in the lungs by primary lung cancer or metastasis.[11-13]

There often exists a dilemma in the treatment of patient with malignancy and TB. The active tuberculosis may affect the treatment of the malignancy and there is no standard protocol designed as such for the treatment of head and neck carcinoma patients with active tuberculosis. In the 1980s, Memorial Sloan Kettering Cancer Center (MSKCC) and MD Anderson Cancer Center stated that patients with head and neck carcinoma must be added to the guidelines in requiring prophylactic administration of anti-tubercular drugs in the high risk group category for developing TB.[14]

However, it may be sometimes difficult to diagnose it in asymptomatic patients as in our case and maybe only diagnosed through radiological assessment in the form of consolidation or infiltrative opacities and warrants need for diagnosis of pulmonary tuberculosis. The treatment of TB is often given priority in clinical practice but it also carries along with itself, the risk of delayed anticancer therapy resulting in probable progression of malignancy and the necessity of out-patient chemotherapy due to the risk of infection to other patients with low immunity.[15] Literature reports that malnutrition and chemotherapy related immunosuppression could be the probable reasons for the development of active tuberculosis in head and neck cancer patients.[16-18] Both factors which were present in our patient.

CONCLUSION

Our case had an active TB infection and a recurrent malignancy. The decision of providing him supportive care and treating the infection was pragmatic in spite of expected delay in anti-cancer treatment. Detection of active infections like TB becomes important in cancer patients. It is extremely important to come up with a proper protocol for the need of prophylactic treatment, detection and the concurrent treatment of both cancer and TB in such patients leading to effective health care of the patient. Further, it also helps in decreasing the risk of TB spread in other cancer patients and health care workers.

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