

Case Report on Oral Squamous Cell Carcinoma Metastasis

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ABSTRACT

Cancer is a group of diseases involving abnormal cell growth with the potential to invade or spread to other parts of the body. Oral squamous cell carcinoma affects about 34,000 people in each year. Despite an improvement in diagnostic and management techniques, the age-standardized mortality rates in oral cancer are constant. This article describes a case of advanced submandibular carcinoma metastasis occurring at elderly age with an emphasis on clinical aspects of squamous cell carcinoma. A 70-year-old male patient who has a known case of Diabetes Mellitus (DM) visited the hospital with chief complaints of soreness, lesions in the jaw, breathlessness, pain and unable to eat with PMH of DM for past 20 years with tobacco dependence for past 40 years. The patient was diagnosed with OSCC and TNM staging of T2N0M3. The patient was treated with methotrexate (50 mg), cisplatin (50 mg), ondansetron (4 mg) accordingly the interactions and side effects were reported. Further, non-pharmacological measures were provided in order to improve their quality of life.

Keywords: Squamous cell carcinoma, Metastasis, Clinical pharmacist, Interactions

INTRODUCTION

Cancer is a term used to indicate the abnormal growth of cells in a particular region which tends to proliferate in uncontrolled way and in some cases, it spreads to the nearby tissues (metastasis). Cancer is a condition which involves about hundreds of other different diseases. The common sites of OSCC prevalence is tongue, floor of mouth, palate, gingival (alveolar ridge) in the decreasing order. Often found in mandibular body and posterior mandible. In India, there is a trend towards increasing incidence and delayed presentation of oral cancer with approximately 50% patients presenting at stage III or IV where the lower socioeconomic strata of society play a vital role. Epidemiological data from oral squamous cell carcinoma (OSCC) is mostly derived from North American, European and East Asian populations. In oral cancers, more than 90% are OSCC while the remaining 10% are mainly melanomas, sarcomas, minor salivary gland carcinomas and metastatic cancers [1]. Most develop in the squamous cells found in mouth, tongue and lips [2]. Previous studies have stated that 5% of world carcinoma is grouped under OSCC and it is of 3-4% in US. Studies have established that in case of sex, male are mostly affected by OCSS and it is generally based upon the disease conditions associated with their lifestyle. In total of 107 sample size obtained for the epidemiological study of OSCC metastasis it was found that Lung, Bones and salivary gland spread was most reported [3]. Annual rates of OSCC were found to be 1.1-2.4/1000 in males and 0.2-1.3/1000 females. The incidence rates are high in

males than in females and were found to be most prevalent in 5th decade of human life. OSCC has found to be in the 4th stage of WHO severity rating and it's also said to be more common in Asia.

As with most head and neck sites, squamous cell carcinoma is the most common oral cancer. Even though the frequent clinical presentation of OSCC is a painless rapidly increasing growth or a non-healing ulcer it may occur in various clinical forms. Additionally, the incidence of OSCC is increasing among young white individuals age 18 to 44 years, particularly among white women [4]. The percentage of 5-year survival for patients with OSCC varies from 40-50%. Regardless of the easy access of oral cavity for clinical examination, OSCC is usually diagnosed in advanced stages. Etiological cause for OSCC was found to be usage of tobacco, betel nut, hookah and quid's. Interestingly it was also found that certain immunosuppressive drugs which was administered for post-surgery and transplantation also induced cancer and usually these kinds of cancers are termed

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as secondary carcinoma which was induced by cytotoxic effects of drugs [5]. Studies also stated that radiotherapy for final stage of certain carcinomas can also lead to sacromatoid which gives an evident to this fact. Validating this certainty, scientists stated that apatinib treatment for intractable squamous carcinoma induced a carcinoma in floor of mouth (FOM) [5].

Types associated with intraoral malignancies include SCC, melanoma, adenocarcinoma, adenocyst carcinoma, sarcoma and lymphoma. Habitually occur as non-healing ulcer associated with pain, bleeding and indurations of underlying soft tissues [6]. These exhibit the exophytic growth within weeks to few months; this is when the patient seeks for health care. Usually biopsy reports with CT or USG scan provides as a base for the diagnosis. This is the resultant of the physical examination of suspicion [7].

Incidence, mortality and survival are the primary measures for assessing the impact of cancer in population groups [8,9].

This article focuses mainly on clinical presentation and diagnostic delay in OSCCs. OSCC is asymptomatic in early stage but it is known to produce high morbidity and mortality because of either the tumor itself or of the treatment in advanced stage.

CASE REPRESENTATION

A 71-year-old male patient visited the Government Hospital, Chennai central with chief complaints of soreness, lesions in the jaw, breathlessness, pain and unable to eat. On further patient investigation, it was found that, the patient already had this lesion before 4 months and they were carefree to consult the doctor as they thought it is just a dry wound, due to the teeth plague. The wound which remained tied for the past 4 months began to pain at the site than normal which made him to visit the nearby hospital after long time. Past medical history of the patient was assessed and it reveals a known case of Diabetes Mellitus for the past 20 years reporting no history

of tuberculosis, bronchial asthma, hypertension and seizures. Personal history states no past use of OTC medications and he was from a socioeconomics background. His personal habits exhibit his tobacco dependence for more than 40 years, 2 packs every day. And the caffeine intake per day ranges up to 4 cups. He says to have a mixed diet and his sleep, appetite, bowel and bladder habits were found to be normal. The patient also admits that he had a lot of stress because of his family problems. On general examination the patient was found to be orient, afebrile and conscious. His vital signs disclose the temperature of 98.6°F, respiratory rate - 20/min, blood pressure - 110/70, pulse rate - 86/min, pallor was found to be positive leaving other parameters negative. On examining the lesion viewed hollow, yellowish, erythematous with deep peelings of the various skin layers. The CT and PET reports along with biopsy revealed the diagnosis of squamous cell carcinoma with a TNM staging of T₂N₀M₃. Physical examination was made and the patient was not advisable for radiotherapy as it was a cancer at a palliative stage. He was treated with methotrexate (50 mg), cisplatin (50 mg), ondansetron (4 mg) The above drugs were evaluated for drug interactions, which showed a moderate severity of methotrexate < > cisplatin. Concomitants use of these two drugs may result in nephrotoxicity and neurotoxicity. It was also found that methotrexate has a strong drug-food interaction with caffeine. As we have mentioned earlier, the patient habitually intakes caffeine, it might cause an antagonistic action of methotrexate by binding to adenosine receptors. The anti-inflammatory properties of MTX are brought by the accumulation of adenosine and this may result in morning stiffness and joint pains. Side effects of the above drugs include nausea and vomiting, dizziness, diarrhea, hair loss, tiredness, headache, hiccups, inability to taste food and fever.

Figure 1 captures the Submandibular carcinoma in oncology ward of Rajiv Gandhi Government General College and Hospital, Chennai, 2019.



Figure 1. Submandibular carcinoma showing neck node metastasis, Oncology Department, RGGGCH, Chennai, 2019.

DISCUSSION

Oral cancer is cancer that develops in the tissues of the mouth or throat. It belongs to a larger group of cancers called head and neck cancers. According to the statistics, in 2012 the incidence of oral cancer in India is 53842 in males and 23161 in females [10]. Oral cancer is considered to be a disease which occurs in elderly people, usually at the age above 70 also the incidence rates have been peak increased after 20's. Oral cancer is the sixth most common cancer globally with a wide geographic variation. Oral cancer is the second most common cancer in India, New cases registered are 1, 19,992 [11]. Success depends on political will; intersect oral action and culturally sensitive public health messages disseminated through educational campaigns and mass media initiatives. The patient was advised for the surgery in order to remove the cancer and necrosis tissues.

It takes up the way away from primary site through tissues, ECM, blood vessels, microvasculature and finally proliferating abnormally in the recipient tissues [12]. The metastasis mechanism deeply depends upon growth factors of the primary and recipient tissues, adhesion molecules and chemokine receptors in targeted organs [13].

Squamous Cell Carcinoma (SCC) which is also called as Epidermis Carcinoma is a type of cancer which occurs due to the abnormal proliferation of squamous cells. These cells are of 2 types namely simple and stratified depending upon their morphology [1]. Simple squamous cells are present in air sacs of lungs, lining of heart, blood vessels, lymphatic vessels and stratified squamous cells are present in the lining of esophagus, mouth and vagina. Simple squamous cells act as lubricating tissues and acts as semipermeable membrane whereas stratified squamous cells act as a protecting tissue. So, the common sites of cancer include skin, lung, thyroid gland, esophagus and vagina [14].

It was also found that 90% of head and neck (mouth, nasal cavity, throat and associated organs) cancer are due to SCC. These squamous cell carcinomas are otherwise called as Head and Neck Squamous Cell Carcinomas (HNSCC) [15]. Other prognostic factors with an exception of "stage" include history and severity of the disease, such as tumors characteristics, grade and etiopathogenesis can also influence the drug regimen plan.

Treatment mostly includes surgery, chemotherapy and radiotherapy. Treatment regimen depends upon a number of factors such as baseline swallow, airway functional status and patient fitness are considered before making plans for treatment regimen [16]. The target therapies include inhibition of Epidermal Growth Factor Receptor (EGFR) which includes monoclonal antibodies such as cetuximab, panitumumab. Other targeted therapies include tyrosine kinase inhibitors such as erlotinib, gefitinib.

The title role of Clinical Pharmacist (CP) to provide education about day-to-day care, diseases, drugs, lifestyle modifications

and also specially deals with reporting interactions, prognosis, differential diagnosis, ADR's etc., which can be broadly classified under interventions which are effective and sometimes life-saving. It also relies on making the patient understand the etiological causes and directions of use of the drugs [17].

As a part of multidisciplinary team, CP can play a crucial role in improving adherence, assuring safe and effective therapy. Other contributions of CP include identify, prevent and manage the drug related problems through optimizing medication use.

CONCLUSION

Role of *clinical pharmacist* in making the patient understand the importance in cessation of use of snuffs and tobacco chewing and important measures to be taken must be done. Management of cancer and quick identification for its risk of prevalence is also to be done with drugs and proper care by making the patient aware, thus reducing the rate of morbidity.

ETHICAL APPROVAL

Permission from the hospital was obtained in order to publish the case report. Informed consent was duly signed by the patient and the care taker for its publication.

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