ORAL SQUAMOUS CELL CARCINOMA OF PALATE INVOLVING MAXILLARY SINUS

Dr. Sakshi Sharma¹, Shivam Dubey², Dr. Shivanand Bagewadi³, Dr. Gaurav Arya⁴, Dr. Vikram Singh⁵, Dr. Pratiksha Hada⁶
Department of Oral Medicine and Radiology. RKDF Dental college and research centre.
Bhopal (M.P)

Corresponding author: sakshi23jan@gmail.com, 9713704010

ABSTRACT

Oral squamous cell carcinoma (SCC) represents 90% to 95% of all malignant neoplasms of the oral cavity. It is classically regarded as an adult disease entity and has a high correlation with alcohol and tobacco consumption. The development of OSCC is a multistep process requiring the accumulation of multiple genetic alterations, influenced by environmental influences, including tobacco products, alcohol consumption, viral infection, chronic inflammation and also patient's genetic predisposition. This report describes a case of squamous cell carcinoma of palate of a 40-year-old male and discusses the symptoms, diagnosis, management and prognosis of the case.

Keywords : Squamous cell carcinoma, Maxillary antrum.

INTRODUCTION

Squamous cell carcinoma is the most prevalent malignant neoplasm of the oral cavity. In developing countries, carcinoma of oral cavity in males is the sixth most common cancer after lung, prostrate, colorectal, stomach and bladder cancer. In females, it is the tenth most common site of cancer after breast, colorectal, lung, stomach, uterus, cervix, ovary, bladder and liver.¹ The risk factors for OSCC are tobacco, betel quid, alcohol and recently human papilloma virus infection. The important factors related to carcinoma with a poor prognosis include large size of the tumor at the time of diagnosis, the presence of metastases in regional lymph nodes and a deep invasive front of the tumor. The incidence seems to vary in different parts of world with Asian countries reporting high number of cases.² When this carcinoma involves maxillary sinus, it is very difficult to treat and traditionally have been associated with a poor prognosis. One reason for these poor outcomes is the close anatomic proximity of the nasal cavity and paranasal sinuses to vital structures, such as the skull base, brain, orbit and carotid artery. This complex location makes complete surgical resection a challenging and sometimes impossible task. In addition, these tumors tend to be asymptomatic at early stages, appearing more frequently at late stages once extensive local invasion has occurred.³
CASE REPORT

A 40-year-old male patient reported to our institution with the chief complaint of growth on palate since 4 months.

Patient was apparently normal four months back. Later he developed a growth which was gradual in onset, initially small in size and gradually progressed to attain the present size. He also gave a history of burning sensation on taking spicy food. No history of associated pain. Patient had habit of tobacco chewing since 20 years with a frequency of 10 times per day.

On extraoral examination, a slight swelling was seen on right side of the face over maxillary sinus [Figure 1].

On intraoral examination, on inspection, a single ulceroproliferative growth was seen on right posterior slope of hard palate. It was roughly oval in shape and measured approximately 4 × 4 cm in size. Mediolaterally it extends from mid palatine raphe to alveolar bone of right maxilla and extends upwards involving upper right vestibule. Extends from 14 region anteriorly to 18 region posteriorly. Edges were everted and surrounding mucosa appears normal [Figure 2]. On palpation, inspector findings with respect to site, shape, size and extent were confirmed. Margins were irregular and the lesion was tender and bleeding on palpation was also evident. The growth was sessile in relation with deeper structures.

The positive findings of age, male patient, ulceroproliferative lesion on palate since four months were considered and a provisional diagnosis of carcinoma of palate was made.

Differential diagnoses of carcinoma of maxillary sinus, mucoepidermoid carcinoma, acinic cell carcinoma and adenoid cystic carcinoma were considered.

The investigations which were ordered for the case were OPG, PNS View and CT Scan followed by chest X-ray.

OPG revealed an extensive soft tissue lesion on right side of palate. There is destruction of right maxillary alveolus and the lesion communicates with the maxillary sinus [Figure 3].

PNS view showed an illdefined radiolucency suggestive of extensive bone destruction involving the right maxillary alveolus, ethmoidal, sphenoidal and maxillary sinus [Figure 4].

CT Scan in axial and coronal section showed a hypodense lobulated soft tissue mass of approximate size 6 × 6 cm in the right maxillary cavity causing significant surrounding bony destruction with destroyed bony maxillary walls, right lateral nasal wall, right maxillary alveolus, right nasal cavity and masticator space. Few enlarged sub mental and submandibular nodes are seen suggestive of aggressive right maxillary neoplasm [Figure 5]. The chest X-ray showed multiple enlarged hilar lymph nodes suggestive of Lung metastasis [Figure 6].

After these investigations, an incisional biopsy of the lesion was ordered. Microscopic examination of the biopsy specimen revealed pseudostratified epithelial cells with signs of dysplasia, invading the deeper connective tissue in the form of well differentiated squamous...
cell carcinoma showing numerous keratin pearls [Figure 7].

Histopathologic result was well differentiated squamous cell carcinoma Grade 1. So the staging according to the TNM system was T4N2aM1. So the patient was referred to the cancer hospital where 6 cycles of chemotherapy were advised for the patient followed by palliative care for his terminal illness.
Patient had habit of tobacco chewing since 20 years with a frequency of 10 times per day. This may be the etiological factor responsible for developing of squamous cell carcinoma.

**DISCUSSION**

OSCC (OSCC) – a disease found particularly in low income communities and mainly a problem of older men. Oral squamous cell carcinoma (SCC) represents 90% to 95% of all malignant neoplasms of the oral cavity. It is classically regarded as an adult disease entity and has a high correlation with alcohol and tobacco consumption. Oral SCC occurs in several well established intraoral sites, including the floor of mouth, tongue (most common), gingiva, lips, and buccal mucosa. It might also present in the tooth-bearing segment of either the maxilla or the mandible, with bony involvement. When it involves Maxillary sinus, it presents a diagnostic and therapeutic challenge to the oral diagnostician, surgeon and as well as the radiation oncologist. The early symptoms are generally vague and consistent with benign disorders. When the tumors are small sized, they are misdiagnosed as chronic sinusitis, nasal polyp, lacrimal duct obstruction or even cranial arteritis.

According to Pindborg, OSCCs are classified into histopathologic grades as well differentiated (grade 1), moderately differentiated (grade 2) and poorly differentiated (grade 3). Well and moderately differentiated tumors can be grouped together as low grade and poorly differentiated and undifferentiated tumors as high grade. In this patient, it was a case of well-differentiated squamous cell carcinoma.

The treatment of OSCC generally requires the services of a multidisciplinary team, the main aim of treatment is to eradicate the cancer, to prevent recurrence and finally restore the form and function of the affected parts. Surgery is the preferred first line treatment of small, accessible OSCCs. However, advanced-stage OSCC is usually treated by a combined treatment program of surgery, chemotherapy, and radiotherapy. In cases of recurrent OSCC, EGF-R inhibitor coupled with chemoradiotherapy, is the first line of treatment. Surgical resection of oral carcinoma with tumor free margins of less than 5 mm may be followed by local recurrence and possibly by distant metastasis, and usually necessitates the administration of post-surgery chemoradiotherapy.

Twenty to thirty percent of cases of resection of OSCC with adequate, wider than 5 mm, tumor-free margins as evidenced on histopathological examination will develop local or contiguous regional “recurrence”. There are two possible explanations for this high rate of recurrence. First, some
carcinomatous keratinocytes may have remained in the margins of the surgical wound, but because there were so few, they were not detected by histopathological examination. Second, the large field of precancerized epithelium comprising pre-cancerous keratinocytes at different stages of transformation from which the primary carcinoma developed, was not removed at the surgical procedure. Epithelium from a field of precancerization may appear normal microscopically, or it may be dysplastic. It may also appear normal microscopically, but nevertheless may harbour keratinocytes with cytogenetic alterations including loss of heterozygosity and p53 mutations, or epigenetic changes in methylations of certain promoters of tumor-suppressor genes and DNA repair genes. Following acquisition of additional genetic alterations, either keratinocytes in the dysplastic epithelium or the genetically transformed keratinocytes may become cancerous giving rise to a new field carcinoma close to where the primary carcinoma had been excised, creating an impression of recurrence.

The topographic distribution of lymph node metastasis in the neck usually is dependent on the tumor site, contiguity and high number of capillaries. In this case few submental and submaxillary lymph nodes were palpable. However, invasion of the parts with rich lymphatic network, such as the oral cavity and nasopharynx, increases the risk of lymph node metastasis.

CONCLUSION

Oral diagnosticians should be aware of clinical signs and symptoms that might lead one to suspect a malignant tumor so that an early diagnosis of the disease can be made. One should have an eagle’s eye in all cases involving swellings of the head and neck. It should be mandatory to advise advanced imaging techniques, such as CT Scan and MRI when conventional radiotherapy fails to help in diagnosis at the early stage of disease. Despite advances in various treatment modalities such as chemotherapy, radiotherapy, surgery and gene therapy the five-year survival rate for oral cancer has not improved significantly over the past several decades and it remains at about 50 to 55 percent. As the early detected is well cured.

REFERENCES


LEGENDS :

FIGURE 1 : Extra oral photograph of the patient.
FIGURE 2 : A single ulceroproliferative growth was seen on right posterior slope of hard palate
FIGURE 3 : OPG showing extensive soft tissue lesion.
FIGURE 4 : PNS View showing an illdefined radiolucency suggestive of extensive bone destruction.
FIGURE 5 : CT Scan in axial and coronal section showed a hypodense lobulated soft tissue mass.
FIGURE 6 : Chest X-ray shows multiple enlarged hilar lymph nodes
FIGURE 7 : Low power photomicrograph 10 x showing dysplastic epithelium invading the deeper connective tissue.