



Oral Cancer : Diagnosis And Management

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Abstract

Diagnosing and treating lesions of the oral cavity is challenging for most clinicians because of the broad variety of diseases that can present with alike appearing lesions and the fact that most clinicians receive scarce training in mouth diseases. Oral cancer, a customary lesion in oral cavity, is not correctly diagnosing a clinical portrait of an early squamous cell carcinoma. Generality of oral cancer continues to rise worldwide, related to the increase in expenditure of tobacco, alcohol and other carcinogenic products. Survival rates for oral cancer are very poor, at approximately 50% overall, and have not improved markedly in recent decades despite advances in therapeutic interventions. Oral cancer awareness among the public should also be improved. This chapter is an attempt to provide a comprehensive update circumscribe the spectrum of etiologic/risk factors, clinical features, guide to early cancer detection, current clinical diagnostic tools, management, prognosis of oral cancer.

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Introduction

Oral squamous cell carcinoma is the common oral cancer. It is common in the developing countries, mostly Southeast Asia and Brazil. Oral cancer normally seen in men past middle age, but it is increasing common in younger people, tobacco users, lower socioeconomic groups. Some of the cancers are:

Oral malignant neoplasms

Squamous cell carcinoma

Malignant salivary gland tumor

Malignant melanoma

Lymphomas

Neoplasms of bone and connective tissue

Some odontogenic tumors

Maxillary antral carcinoma

Metastatic neoplasms [1]

patients with lung cancer are at risk of gaining second primary oral cancers. [1]

Etiology And Pathogenesis

There are mainly two types of factors that are dealing with this life threatening oral cancer :: 1

1) Epigenetic Factors

2) Genetic Factors .

Tobacco : The customary for tobacco is smoking, Hookah or chillum (a clay pipe used to keep the burning tobacco) are other common forms of smoking in some countries of Asia including India. In some part of India, tobacco smoke is dissolved in

water (“smoke on the water”) which is another peculiar form of tobacco use. Smokeless tobacco merchandise like chewing tobacco and snuff are considered , harmful chemicals including nicotine are ingested contain more than 30 harmful carcinogenic factors.

Oral neoplasia has been associated with chewing of tobacco with betel quid (BQ) in India and other asian countries, whereas in western countries, cigarette smoking and heavy alcohol consumption are the main risk factors[20],[21]

Betel Nut

Betel nut or Areca nut chewing is one of crucial factor for oral cancer. The WHO scrutinize it as carcinogen. It is ascribed to arecoline and nitrosamine. Are coline persuade to cause DNA damage in human epithelial cells. The most habitually malignancies encountered in Southeast Asia, primarily due to the pervasive habit of betel quid.

Immunosuppression

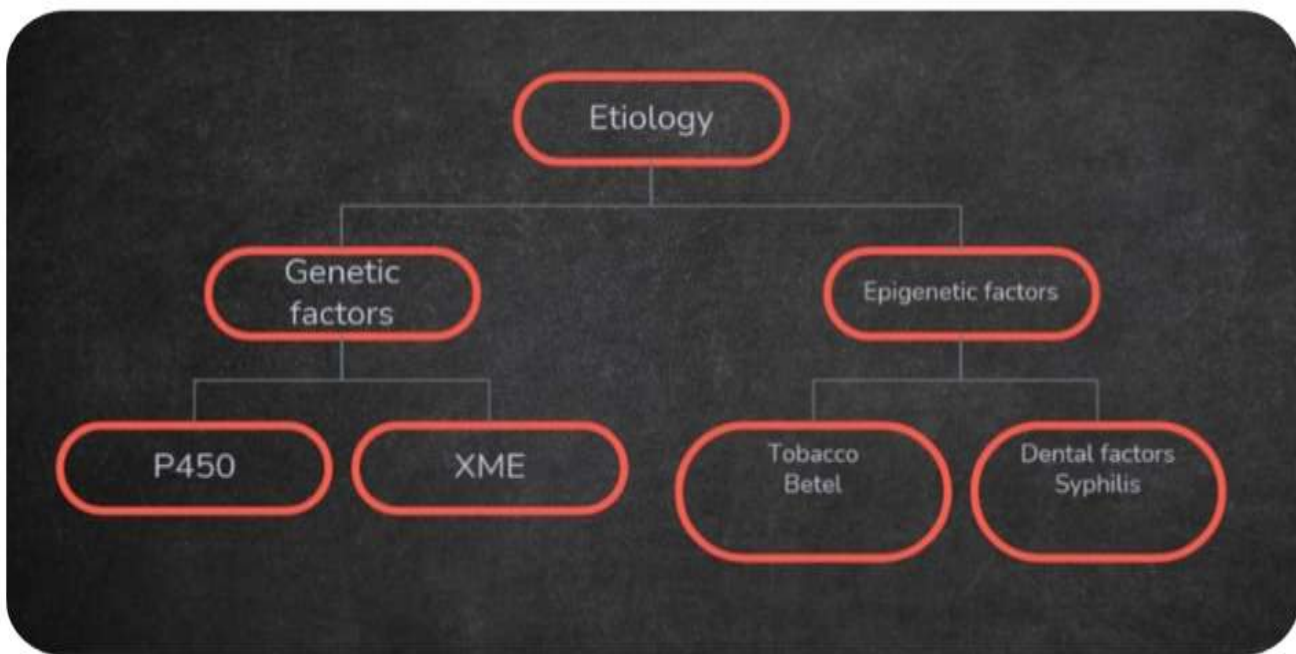
People who are under "immunosuppressive" drugs, makes it challenging to detect or identify the cancer cells or to over throw the factors causing cancer. Studies depicts that transplant recipients are prelious of a large number of different cancers.

Radiation

Radiation of head and neck most commonly causes damage to the salivary gland, periodontal disease osteoradionecrosis. The oral morbidities of radiation therapy include but treacherous to dental caries and periodontal disease.

Genetic Factors

Approximately or roughly 35 to 80 potentiality of oral cancers have mutations in the TP53 gene, leading to out of commission or haywire product. More than 90% of these mutations are between exons 5 and 8 of TP53, a region where most quotidian mutations include R175, G245, R248, R249, R273, and R282 on the DNA binding territory.



Clinical Feature

Tongue cancer usually grow into an ulcerative and infective lesion. It has regular pain, with or without swallowing dysfunction. Buccal mucosa cancer can

be presented with parotitis due to the tumor pinched-Stensen’s duct .

Lip cancer is normally presented with an ulcerative lesion, rarely associated with bleeding and pain.[3,4]

INTRA ORAL EXAMINATION : The process of the oral examination requires to Totally observe and touch the buccal mucosa, the anterior Tongue, the Bottom of the mouth, the hard palate, and the upper, lower gingiva and the retromolar trigone. It's Wise to use a lingo depressor with good light(headlight) to completely observe all positions of the oral depression. also again, the size and characteristics of the lesion are estimated, including the extent of irruption(endophytic or exophytic) and the relationship of lesion with girding structures.

PERI ORAL EXAMINATION : The major salivary glands and metastatic lymph bumps of the neck are estimated. For case, the sensation of the forepart, cheeks, upper lip, chin and lower lip should be assessed to find the clinical substantiation of excrescence- raised-nerve.

Diagnosis

Tissue Diagnosis

In the oral tumor case, the histopathological diagnosis is advantageously carried out by a “bite” or excisional biopsy with few pieces from the boundary of benign and malignant lesions. the biopsy piece is necessary to take a sufficient depth to cinch necrotic area should be averted.[3]

Staging Evaluation

Diagnostic imaging tools coupled with clinical examination help to verbatim assess the stage of the disease, especially the extent of tumor invasion, lymph node metastasis, distant metastasis and the occurrence of second primary cancer. The second primary cancer is often found in the head and neck area, following the lung and esophagus. [3]

Primary Tumor

Both of CTs with intravenous contrast and magnetic resonance imaging can diagnose the tumor’s invasion to adjoining organs. Indeed, axial and sagittal MRI scan can precisely assess tumor depth. However, CT scan with contrast allows an accurate approach to estimate how deep bone could be invasive such as tumors in the hard palate, gums or floor of the mouth [5]. While, magnetic resonance is supercilious to CT that could evaluate the degree of soft tissue invasion, nerve invasion.[3],[6]

Nodal Metastases

CT with intravenous contrast and MRI can expedite the diagnosis of metastatic lymph node and extranodal spread contingencies. In other words, the lymph nodes with an increase in size enhancement, round, rim enhancement and central necrosis are presumed as malignant ones .[3],[7],[8]

Distant Metastasis

Diagnosis of the residence of distant metastasis is highly important to settle the treatment and prognosis of the patients. Chest X-rays may be designated to the early-staged cases or patients with low-risk lesions and non-smokers. However, in the advance-staged patients, the risk of lymph nodes N2,3 and bilateral lymph nodes are under a higher prospect of a distant invasion. Hence, chest CT or PET/CT are advocated to this group.[3],[9]

Fine Needle Aspiration (FNA) Biopsy

Fine needle aspiration biopsy was used in the case with a patient with metastatic cervical lymph nodes. This methodology has high susceptibility and explicit, markedly, diagnostic accuracy is in the range of 89–98% [3], [10],[11] Yet, if a metastatic neck lymph node was reckon contrary to the negative FNA result, FNA needed to be re-conducted before an open biopsy being performed.[3]

TABLE 48.1 The TNM staging system.

Primary tumour (T)			
TX	Primary tumour cannot be assessed		
T0	No evidence of primary tumour		
Tis	Carcinoma in situ		
T1	Tumour <2 cm in greatest dimension		
T2	Tumour >2 but <4 cm		
T3	Tumour >4 cm but <6 cm		
T4	Tumour invades adjacent structures (e.g. mandible, skin)		
Regional lymph nodes (N)			
NX	Regional lymph nodes cannot be assessed		
N0	No regional lymph node metastasis		
N1	Metastasis in a single ipsilateral lymph node <3 cm in greatest dimension		
N2a	Metastasis in a single ipsilateral lymph node >3 cm but not more than 6 cm		
N2b	Metastasis in multiple ipsilateral lymph nodes, none >6 cm in greatest dimension		
N2c	Metastasis in bilateral or contralateral lymph nodes, none greater than 6 cm in greatest dimension		
N3	Metastasis in any lymph node >6 cm		
Distant metastasis			
M0	No evidence of distant metastasis		
M1	Evidence of distant metastasis		
Stage			
0	Tis	N0	M0
I	T1	N0	M0
II	T2	N0	M0
III	T3	N0	M0
	T1, T2, T3	N1	M0
IV	T4	N0	M0
	Any T	N2	M0
	Any T	N3	M0
	Any T	Any N	M1

Management

The surgical purpose is to completely void the primary tumor with negative margins besides, evaluate the stage and treatment of regional lymph nodes[12]. concern should be made to ensure negative resection margins since positive margins are dealt with a worse prognosis. The rate of local control significantly increased when the resection distance to the tumor was more than 0.5 cm compared to less than 0.5 cm (36 and 18%, respectively)[13]. However, the surgical approach is decided by the location and size of the tumor. The chance of complete resection with a negative margin in the three dimensions is the most important factor in determining the approach. Lesions presented in the anterior or laterally part of the tongue, superficial tumors of the anterior floor of mouth are rejected transorally. In the case, the invasion intensively toward posterior and/or on patients with trismus and obstructive dentition may require a more invasive approach such as the lip-splitting paramedian mandibulotomy approach.[14] The upper cheek flap and midfacial degloving approaches are indicated for gaining access to the maxilla.[3].

Prognosis

clinical stage is the key indicator of survival rate. The Surveillance, Epidemiology and End Results (SEER) Cancer Statistics reveal that a 5-year survival for locally advanced oral cavity cancer of 54.7%, unlike to 82.5% for early-stage cancer patients treated and managed from 1975 to 2007. [15]. Lymph node metastasis is the most important prognostic aid for oncologic outcome in oral cancer[16]. In addition, the number and size of positive lymph nodes, the presence of extranodal extension histologic grade, the presence of perineural invasion and increasing size have been cosided with bad outcomes.[17,18,19]

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