

## Diagnostic Delay in Oral Cancer

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### Diagnostic Delay in Oral Cancer

Head and neck carcinoma is the sixth most frequent malignant neoplasm in the world. Approximately 3% of all cancers are located in the oral cavity and oral squamous cell carcinoma is the most common malignant neoplasm of the mouth with more than 90% of cases.

However, the incidence of oral cancer is very variable depending on the geographical area of the world. In Southeast Asia, and particularly in India, oral cancer accounts for 40% of all malignancies [1].

In recent years, the incidence of oral cancer is increasing, especially in the young population. In contrast, the overall 5-year survival rate has not improved significantly being 56%. This is mainly due to the fact that 60% of oral tumors are diagnosed in advanced stages (III and IV stages) and to the phenomenon of "field cancerization" whereby oral cancers have the highest risk of development of second primary tumors.

Although the oral cavity is an area of easy visual inspection and direct palpation that facilitates the examination by the professional, only 40% of oral cancers are diagnosed when they are localized lesions, the same proportion as colorectal cancers.

The time of diagnosis and tumor stage have a decisive influence on the survival rate. Thus, for localized oral cancer lesions (stages I and II), the 5-year survival rate is 83%; for tumors with lymph node metastases (50% of cases), the survival rate decreases to 42% and for tumors with distant metastases (10% of cases), the 5-year survival rate falls to 17% [2].

Different etiological factors have been related to oral cancer. The main risk factors for oral cancer are tobacco use, alcohol consumption, the existence of potentially malignant disorders of the oral mucosa, and human papilloma virus (HPV) infection. Other related risk factors are Candida species superinfection, nutritional deficiencies, genetic predisposition, oral hygiene and oral health status, immunosuppression, chronic exposure to sun or repetitive oral mucosa trauma.

Of all of them, the most important is the combined effect of heavy tobacco use and alcohol consumption that is present in more than 75% of patients with oral cancer. The relative risk of oral cancer among heavy smokers and drinkers is 20-fold higher than non-smoker or non-drinker subjects. Alcohol acts as a co-carcinogen increasing from 2 to 4 times the carcinogenic effect of tobacco use [3].

The increased incidence of oral cancer in young individuals from Western countries, especially tongue carcinoma, appears to occur due to the increased alcohol intake and the influence of HPV infection.

Mouth neoplasms may show different clinical presentations. The main of them are non-healing ulcers, white lesions (leukoplakia), red lesions (erythroplakia), red and white lesions (erythroleukoplakia) or exophytic growths. These lesions are mostly observed on lateral borders of the tongue, floor of the mouth, buccal mucosa, gingiva, and soft palate.

Diagnostic delay of oral cancer is the main factor that condition that these lesions are diagnosed in advanced stages and the low survival rate of them. It is estimated that the average time from the time the lesion is detected until its definitive diagnosis is made is about 6 months. This diagnostic delay can be attributed to factors related to the patient and to the professional [4].

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## Patient Delay

Patients may ignore the presence of the lesion because, at first, oral cancer lesions are usually asymptomatic or cause no remarkable signs and discomfort. Symptomatology becomes evident when the lesions progress to more advanced stages. In other cases, the patient is aware of his lesion, and he is self-medicating rather than to consult with the professional for fear of the diagnosis.

Moreover, the complex anatomy of the oral cavity difficulties the self-examination by the own patient and is not useful as is in the case of skin or breast tumors.

Other factors that may delay the diagnosis are economic factors, distance, or lack of specialized health services to refer the patient.

All of this contributes to a delay in the diagnosis of the lesion and could worsen its prognosis [5].

## Professional Delay

Sometimes the professional does not properly examine the oral mucosa or minimizes the severity of the lesion without taking a biopsy. Other times, when the professional decides to take a biopsy, he incorrectly chooses the biopsy site and sends a sample of non-representative tissue for the histopathological diagnosis.

Any lesion that persists for two weeks or longer after removal of the possible causative agents and its treatment should be biopsied or referred to a specialized health center.

The exhaustive examination of head, oral cavity and neck is critical to early detection of oral cancer. In the oral cavity, examination of both hard and soft tissues and, in the neck, a complete evaluation of cervical lymph nodes are mandatory [6].

Although most dentists performing routine oral mucosa screenings on their patients, some lesions go unnoticed or are misdiagnosed as benign conditions. The increase of knowledge among dental and medical professional of potentially malignant oral disorders and oral malignant lesions will be an effective

measure to reduce the delay in the diagnosis. Additionally, professionals should be familiar with the biopsy, the best tool for definitive diagnosis of these lesions.

There seems to be a wide consensus the need to perform annual examinations for oral cancer screening for risk patients over 40 years of age, although considering new risk factors and increasing incidence of oral cancer in young patients, the age range of these periodic examinations should be expanded [7].

In conclusion, patients and the general public should have information about risk factors and behaviors related to oral cancer, particularly because most of them are preventable factors. Patients and professionals should be aware that, in the early stages, oral cancer lesions are asymptomatic or with a slight symptomatology which may delay its possible diagnosis.

Professionals must receive specific training to conduct complete extraoral and intraoral examinations and to perform biopsies for a correct diagnosis and early detection of oral cancer lesions.

Health providers should establish protocols for early detection of oral cancer with periodical oral examinations for patients at risk and a proper management of suspicious lesions.

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