

Oral Cancer Prevention

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Oral cancer is of major concern in Southeast Asia primarily because of the prevalent oral habits of betel quid chewing, smoking, and alcohol consumption. Oral cancer prevention is an action taken to lower the chance of getting oral cancer. This is to prevent new oral cancer cell from getting started. The risk factors that increases the chance of developing oral cancer have to be taken care of as prevention actions. Not all of oral cancer can be prevented, but the risk of developing oral cancer can be greatly reduced by avoiding certain risk factors.

Tobacco use including smokeless tobacco and excessive alcohol consumption are estimated to account for about 90% of oral cancer incidence. Nitrosamine is the major intra-oral carcinogen that arise from tobacco and major metabolite of alcohol is acetaldehyde. Long term exposure of nitrosamine and acetaldehyde to oral cavity may predispose to oral cancer. There is a synergistic effect of carcinogenesis of alcohol and tobacco if the heavy drinkers also are smokers. It is important to stop smoking and alcohol drinking to limit the risk of getting oral cancer. Quit tobacco smoking and alcohol drinking habits are the great way to lower the risk of developing oral cancer, even after many years of practice.

Betel quids chewing is the common habit being practice in Southeast Asia. Betel quip usually contains betel-leaf, areca nut, slaked lime and tobacco. Chewing of betal quids and arena nuts especially mixed with tobacco increase the risk of developing oral cancer. Betel quid ingredients, especially tobacco and areca nut have shown their reactive oxygen species, methylating agents, and reactive metabolic intermediates that induced various kinds of DNA damage can lead to cancer development.

Deficiency of vitamin C, E and A has been liked to oral cancer. Thus, adequate consumption of fresh vegetables and fruits provides low risk of getting oral cancer. Although it's not exactly clear what substances might be responsible for reducing the cancer risk. The American Cancer Society recommends eating a healthy diet with at least 2½ cups of vegetables and fruits every day. Choosing whole-grain breads, pastas, and cereals and eating fish and poultry may also help lower the risk of oral cancer.

The viruses implicated in oral cancer development are human papilloma virus, herpes simplex virus and Epstein Barr virus. The viral genes are proto-oncogenes which become oncogenes when inserted into the host's DNA and ultimately resulting in malignant transformation. HPV are the most common viruses implicated in oral carcinogenesis. The infection with the human papilloma virus is the main oral infection especially with the population who practicing oral sex and having multiple sex partners. These infections are also more common in smokers, which may be caused by the smoke which damage the immune system or the cells that line as a first layer of protection from foreign body. Human papilloma virus vaccination may lower the risk of oral cancer, but has not yet been proven.

Candida infection caused by *Candida albicans* has been implicated in the leukoplakia pathogenesis, of which may have undergone malignant transformation. Candida infection can be associated with chronic smokers which may prove synergistic effect in the oral cancer development. *Candida albicans* is the commensal in the oral cavity which become opportunistic during host's immunosuppression due to systemic diseases, radiation treatments, antibiotic therapy, AIDS/HIV or corticosteroid treatment. Any of these premalignant lesions need medication care if necessary.

Ultraviolet radiation is an important and avoidable risk factor for cancer of the lips. If possible, limit the time exposure under the sun light during the middle of the day, when Ultraviolet rays are strongest. If not avoidable, apply sunscreen and lip balm with a sun protection factor (SPF) of at least 15.

Poor oral hygiene, poor dental status due to sharp or fractured teeth, and chronic irritation from an ill-fitting denture has been suggested to promote the transformation of epithelial cells. Avoiding sources of oral irritation may lower the oral cancer risk.

Mouthwashes or mouth rinses usually contains alcohol as a solvent for other ingredients or as a preservative. Excessive use of mouthwash containing alcohol could increase the oral cancer risk. Previous study demonstrated that its cancer risk is attributed to duration and frequency use and mouthwash alcohol content. Thus, if possible try to use the mouthwash or mouth rinses with low alcohol content.

In recent years, chemoprevention is proposed for the individual who have a higher risk of oral cancer, such as leukoplakia or erythroplakia. Several kinds of drugs including retinoids have been studied extensively for oral cancer chemoprevention. Few studies so far have shown that retinoids can shrink or heal leukoplakia lesion. But these studies have showed short-term benefit in cancer prevention or helping patients live longer.

Several risk factors are implicated in the development of oral cancer. Hence, it is important to implement the program awareness about the oral cancer risk factors to the public. In addition, dentists must check carefully for early signs of oral cancer, while performing the routine oral examination especially in patients with history of known risk factors [1,2].

Bibliography

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