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## A COMPREHENSIVE STUDY ON ORAL CANCER

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### Abstract

Cancer is the most dreaded disease that occur in any individual at any part of their life .Oral cancer is the 11<sup>th</sup> most common cancer in the world. The WHO predicts a continuing worldwide increase in the number of patients with oral cancer ,extending this trend well into the next several decades. Oral cancer accounts for cancer that occur in any part of the mouth including mucosal lip, tongue , gum , floor of the mouth. Two third of the global incidence of oral cancer occur in low and middle income countries . India alone accounts for one - fifth of oral cancer cases. Chewing of betel quids with tobacco or without tobacco or areca nut chewing , alcohol consumption, smoking, use of oral snuffs infection with certain Human pappiloma virus are the major risk factors. The incidence is more common in men than in women. The observed trends in incidence and mortality among men and women are closely correlated with the patterns and trends in tobacco and alcohol use. Studies indicate that tobacco smoking in any form increases the risk of oral cancer twofold to tenfold in men and women. This is due to the presence of certain carcinogens in tobacco the most abundant and strongest being tobacco specific- N-nitrosornicotine and 4,1,1 butanone . These are formed by N – nitrosation of nicotine the major alkaloid responsible for addiction to tobacco. Chronic trauma in the mouth also increases the risk of oral cancer. Some oral ulcers can also develop cancer. Signs anssymptomtsincude bleeding, sore in the mouth that do not heal, lump or white patch in the mouth. Diagnosis include various screening test that helps in the early detection of cancer, Biopsy, Endoscopy, Certain imaging test. Treatment include surgery ,radiation therapies, Chemotrappy. This review aims to present the fundamental aspects of this cancer moving from definition ,epidemiology etiology, prevention ,risk factors ,complications, diagnosis, clinical presentation and treatment.

**Keywords:** Oral cancer, Epidemiology, Tobacco.

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## ONCOLYTIC VIRUSES IN CELL COMMUNICATION PATHWAYS

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### Abstract

Toxicity remains a major issue with current anticancer agents due to non-selective action. Immunotherapy is a profound development in anti-cancer treatment due to its ability to deliver therapy to specific cellular targets. Cancer immunotherapy is based around the concept of helping the immune system to recognize and attack certain cancer cells. Certain viruses have oncolytic or cancer-killing (Oncolytic) properties supported by observations that chickenpox infection improve the WBC (White Blood cells) count and lymph node status in patients with lymphocytic leukaemia, Measles caused an improvement in the case of leukemia, Hodgkin's, and Burkitt's lymphoma. The viruses kill neoplastic cells as well as trigger already existing but ineffective anti-tumor immune response against the tumor. When a virus infects a tumor cell, the virus makes copies of itself until the cell bursts. The dying cancer cell releases materials, such as tumor antigens, that allow the cancer to be recognized, by the immune system. A lot of research is going on in this field utilizing this property of virus to make new treatment options for cancer. Chinese state FDA (Food and Drug Administration) approved the first oncolytic virus-drug 'ONCORINE' an Adenovirus type 5 injection in 2005 for head and neck malignancy. In October 2015 the US FDA approved a genetically engineered herpes virus called talimogenelaherparepvec (T-VEC) to treat advanced melanoma. More viruses are under trial for their oncolytic potential. In this article we intend to portray the various altered pathways developed, by which the tumour cells gain the trait to bring about increased viral tropism and tumour toxicity.

Key Words: Toxicity, Oncolytic Virus, Immunotherapy, Tumour Toxicity, Specificity.

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