



PREVALENCE OF HIV INFECTION AMONG ORAL CANCER PATIENTS- 5 YEAR TERTIARY CANCER CENTRE EXPERIENCE

Oncology

Dr Rajani B C Dept. Of Oral Oncology, Kidwai Cancer Institute.

Dr Nadimul Hoda* Dept. Of Oral Oncology, Kidwai Cancer Institute. *Corresponding Author

Dr K S Sabitha Dept. Of Oral Oncology, Kidwai Cancer Institute.

Dr Veerbhadra Kalyani Dept. Of Oral Oncology, Kidwai Cancer Institute.

Dr Vijayabanu Dept. Of Oral Oncology, Kidwai Cancer Institute.

ABSTRACT

The rising rate of cancer is a problem all over the world, including India. Recent research has shown that HIV-infected individuals have elevated rates of several cancers, and that an increasing proportion of these cancers are now non-AIDS related malignancies. HIV-infected individuals have a higher incidence of both virus-related cancers, and tobacco/alcohol-related cancers, due to higher prevalence of HIV-induced inflammation, immunodeficiency, and tobacco use among HIV-infected compared with HIV-uninfected individual. Our study attempted to estimate the prevalence of HIV positivity among patients diagnosed with oral cavity cancers.

KEYWORDS

Oral cancer, HIV positivity, anti retroviral therapy, prevalence

INTRODUCTION:

After use of combined antiretroviral therapy, highly active antiretroviral therapy has historically improved the survival of human immunodeficiency virus (HIV)-infected patients. (1) The considerable improvement in survival after HIV infection has led to a cumulative clinical impact of long-term morbidities, including cancers, in this population. An increased risk of cancer has been recognized in HIV-infected patients since the beginning of the HIV epidemic. (2) This is thought to be a result of HIV-induced immune suppression delaying the control of cancer-associated viruses as well as straight effects of HIV replication. (3) The incidence of acquired immunodeficiency syndrome (AIDS)-defining cancers (ADCs) and non-AIDS-defining cancers (NADCs) in HIV-infected patients has augmented, but the association between HIV infection and the risk of cancer is equally clinically and epidemiologically debatable. (4)

The rising rate of cancer is a problem all over the world, including India. A cancer screening protocol was executed for the general population of India by the National AIDS Control Organisation Ministry of Health & Family Welfare, Government of India. However, the commonness of cancer in HIV-infected patients is still uncertain, and the recommendations of a screening protocol for HIV-infected patients are still being contested. The purpose of this study was to elucidate the risk of cancer in patients with HIV infection and assess the prevalence of HIV infection among oral cancer patients.

MATERIALS AND METHODS:

This retrospective study was carried out in department of Oral oncology, Kidwai memorial institute of oncology, Bengaluru, India from 2014-18. A total of 7100 patients diagnosed with oral squamous cell carcinomas were identified and 77 patients with HIV diagnosis were enrolled into the study.

Patients were included in the study who were diagnosed as oral squamous cell carcinoma. Recurrent and residual lesions were excluded from the study. The enrolled patients included the biopsy proven SCC.

Patients were classified as per AJCC 8th edition and T1 and above lesions with clinical node negative status underwent surgery as primary modality and adjuvant radiation therapy depending upon the histopathological report. All patients underwent clinical examination and contrast-enhanced MRI scanning before the initial treatment. The tumour, node, metastasis classification and clinical stage were determined according to the criteria established by the American Joint Committee on Cancer and the International Union Against Cancer, 8th edition. All patients with clinical T1, T2, T3 and N0 and N1/2 status underwent wide local excision of the primary tumour along with unilateral Supraomohyoid neck dissection (Level I, II, III). All patients

with clinical T3, T4 and N0 status underwent wide local excision of the primary tumour along with IJV preserving neck dissection was performed.

In this study, demographic factors, clinical factors, and pathological factors were analysed.

The microscopic slides were reviewed by a single pathologist. Histological grade determined based on classification proposed by the World Health Organization.

The maximum depth of invasion was measured using an ocular micrometre. The maximum depth of invasion was measured vertically from the virtual normal mucosal line to the deepest infiltrating tumour cell.

The specimen of the neck dissections was fixed in 10% neutral-buffered formalin. All lymph nodes visible or palpable were carefully dissected from fat. All nodes that were 5 mm or larger were subjected to haematoxylin and eosin (H and E) stained pathological examination.

The result of clinical examination, radiological imaging was compared with histopathological results of neck dissection specimen; the presence and absence of metastatic lymph nodes, their number, size, and level in the neck were noted. Close margins are defined when the distance between the surgical margin and tumour is less than 5mm. Laboratory diagnosis by HIV testing was done to determine the HIV status of an infected individual's infected blood, blood products, organs, and tissues. HIV diagnosis is based on the demonstration of antibodies. Antibody detection can be done using an ELISA test, rapid test, and western blot test. These tests are used as screening tests and/or confirmatory tests. All tests are performed and interpreted as per test institutional protocol.

Correlation analyses were made between occult metastasis and the variables studied by the Chi-square test. Values of $P < 0.05$ were considered statistically significant.

RESULTS:

Among 7100 patients with oral squamous cell carcinoma, 77 patients were enrolled in the study. The prevalence rate of HIV infection in our study is 1.08%. The demographic parameters are depicted in table 1.

AGE		
15-30 years	5	6.4%
31-55 years	28	36.36%
>55 years	44	57.14%

SEX		
MALE	44	57.14%
FEMALE	33	42.86%
HABITS		
YES	53	68.83%
NO	24	31.16%

Out of 77 patients, 38 patients underwent surgery for their operable disease. The clinical factors are depicted in table 2

TABLE 2: CLINICAL FACTORS		
Treatment		
Surgical	38	49.35%
Non-surgical	39	50.65%
Site		
Buccal mucosa	23	29.87%
Tongue	12	15.58%
Gingivo buccal sulcus	27	35.06%
Maxilla	3	3.89%
Alveolus	6	7.79%
Floor of mouth	6	7.79%
Anti-retro viral therapy		
YES	41	53.24%
NO	36	46.75%
Surgery		
WE+ SOHND	16	20.77%
WE+MND	4	5.19%
WE	17	22.07%
Composite resection	1	1.29%

DISCUSSION:

Although Head and Neck cancer are not among the most common cancers worldwide, it has been stated that about two thirds are in developing countries. (5) These cancers other than presenting quite late, they cause a lot of morbidity and mortality in these ill-equipped countries. (6) Some studies have shown an increased prevalence of some head and neck cancers among people living with HIV and as such we need to enhance the knowledge of prevalence at the disease to see any variation in trend. (7) Therefore, a attentive search at head and neck cancers in relation to HIV status is still relevant and given the disease's nature.

As per our data HIV prevalence in this patient population stood at 1.08%. This prevalence of HIV infection found in our study was more than the national prevalence of 0.2%. This was against the fact that the greater than 55 years age group formed the majority of the cases. The national prevalence of HIV infection in that age group of 15-49 years is 0.2%. (8) In this study as seen from table 2, the > 55 years age group dominated our patient population followed by 31 – 55 group. These are not the groups with highest HIV prevalence. It's not possible to point out the potential role of HIV in head and neck cancer patients but the high prevalence warrants more research. Some studies have reported an increase in head and neck cancers among people living with HIV/AIDS. (7)

In this study, 44 (57.14%) of the total cases were greater than 55 years of age, followed by 31-55-year age group at 36.36%. This is similar to an earlier study done so no change in age distribution. (9) Due to matching on age and gender, there was no significant difference between male and female distribution nor between HIV positive and negative patients as per age groups. It's very much probable that the exposure to risk factors and henceforth incidence of disease among males is higher than in females.

Smoking and alcohol intake are known cancer risk factors and are important factors in causation of cancer. In our study the percentage of patients with these habits is found to be 68.83%.

Unfortunately, we could not add survival data. Many of the patients do not get the ART prescribed treatment approach. However, our study clearly demonstrates the need for more research on head and neck cancer in India in the context of HIV/AIDS, as neither the reasons for the high HIV prevalence among this cohort of patients nor the prognosis and survival difference or similarities have been established. Conclusion: Our study clearly validates the need for more research on head and neck cancer in India in the context of HIV/AIDS, since the motives for the high HIV prevalence among this unit of patients hasn't been established.

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