Study of Proportion of HIV in Patients of Malignancy in Tertiary Care Cancer Hospital of Malwa Region of Punjab:A Hospital based Study

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Abstract

Introduction: Human immunodeficiency virus infection and acquired immune deficiency syndrome (HIV/AIDS) is a spectrum of conditions caused by infection with the human immunodeficiency virus. The purpose of this study is to obtain data on the prevalence of HIV in the cancer population and vice versa at a major tertiary cancer in Bathinda and as the HIV population is also growing, the proportion, epidemiology and demographic profile of HIV in cancer patients need to be evaluated. **Aims & Objectives**:- To estimate the proportion of HIV infection among cancer patients visiting tertiary care hospital in District Bathinda and to study the demographic profile of patients suffering from HIV and cancer as primary outcome and to study the epidemiology of cancer among HIV-infected people as secondary outcome. **Materials and Method:-** Descriptive cross sectional study in cancer patients coming to tertiary care cancer hospital in Bathinda**. Results & Conclusion:-** In our hospital based study, we observed low proportion of HIV (0.28%) as well as HIV+ Cancer patients(0.23%). In cancer patients burden of HIV-infection will have implications for current and future cancer risk.

Keywords*: Malignancy. non-AIDS defining cancers, AIDS defining cancers.*

Introduction

Human immunodeficiency virus infection and acquired immune deficiency syndrome (HIV/AIDS) is a spectrum of conditions caused by infection with the human immunodeficiency virus (HIV)[(1)] HIV affects the person's immune system and this state of immunosuppression with compromised immune system makes it harder for the body to fight infections. As the infection progresses, it further interferes with the immune system and reduces the body's ability to fight viral infections thus leading to [(2,3,4)] high risk of developing cancer as compared to uninfected people of the same age [(5,6,7)] in their lifetime. HIV allows cancer cells to spread faster than in someone without HIV. People with AIDS are 19 times more likely to be diagnosed with anal cancer, 3 times with liver cancer, 2 times likely to be diagnosed with lung cancer, 2 times as likely to be diagnosed with oral cavity/pharynx cancer and about 8 times more likely to be diagnosed with Hodgkin lymphoma compared with the general population. Collectively all these malignancies are called "non–AIDS-defining cancers [(1, 2).] HIV infection increases the risk of cancer and also increases the mortality in cancer patients [(8,9).]The poor cancer survival rate of HIV-infected people may be due to weakened immune system, cancer being more advanced at diagnosis and also delay in cancer treatment. As cancer risk increases with age, people living with HIV/AIDS are at an increased risk of developing cancer. The aim of this study is to obtain data on the prevalence of HIV in the cancer population and vice versa at a major tertiary cancer in Bathinda and as the HIV population is also growing, the proportion, epidemiology and demographic profile of HIV in cancer patients need to be evaluated.

Aims and Objectives

1. To estimate the proportion of HIV infection among cancer patients visiting tertiary care hospital in District Bathinda.
2. To Study the demographic profile of patients suffering from HIV and cancer.
3. To study the epidemiology of cancer among HIV-infected people

Materials and Method

Study design : Descriptive cross sectional study

Study Population: Cancer patients coming to tertiary care cancer hospital in Bathinda.

Study Period: 3 years from 01.01.16 to 31.12.19.

Sample Size: All the patients who were confirmed Histo-Pathologically for Cancer

a. Inclusion Criteria: Patients confirmed Histo-Pathologically for Cancer were tested for HIV and other marker

B. Exclusion Criteria: Patients who came to OPD but did not took intervention from our Hospital

This descriptive study was carried out in a teaching cancer hospital in Bathinda (Punjab), India. Demographic and geographical data of the HIV patients with cancer admitted to our hospital was collected for a period of 4 years from 01.01.16 to 31.12.19.

Data

Data from this study were obtained from the cancer patients who visited ACI, Bathinda for treatment. The status of HIV infection was determined by the ELISA. This checkup has become routine for any cancer patient visiting our Hospital. The proportion has been determined according to the number of patients who visited ACI, Bathinda. Social characteristics (age, gender, marital status, tobacco and alcohol consumption, education, and body mass index) were reviewed

Analysis: Analysis was done on Microsoft Excel.

Table 1: Showing year wise distribution of cancer patients examined for HIV

Year of Diagnosis	Total Number of Samples	HIV Positive	HIV Postive with Cancer
2016	140	0	0
2017	356	0	0
2018	734	1	1
2019	879	5	4
TOTAL	2109	6	5

Table 2: showing age wise distribution of HIV positive patients

Age	HIV Postive with Cancer
3O-40YRS	0
41-50YRS	2
51-60YRS	2
60-70YRS	1
TOTAL	5

Table:3: Showing sex distribution of HIV positive patients

Sex	HIV Postive with Cancer
Male	1
Female	4
Total	5

Discussion

Our study is a hospital based study in which we observed 0.28% of HIV among the samples received and 5 cases(0.23%) had HIV+ Cancer as out of 2109 received. 6 were reported HIV positive and out of this 6 cases reported only 5 had HIV+ Cancer .In our based study, we observed low proportion of HIV (0.28%) as well as HIV+ Cancer(0.23%) in cancer patients. Studies in this regards showed a high Proportion (2.1%) of the HIV infection in patients with cancer in surgical oncology unit([10,11]). In a report from Maharashtra proportion of HIV was 1.2% [(11)]. As cancer risk increases with age the burden of cancer people infected with HIV has shifted to higher age group. 5 cases which were reported, 4 were in the age group of 45-55 years and 1 was more than 60 years. With the introduction of antiretroviral therapy mortality among HIV-infected individuals has reduced and the projected life expectancy in these patients is almost similar to that observed in the general population [12].

The female gender was more predominant out of HIV+ Cancer patients as out of 5 cases reported, 4 were female and 1 was male. Similar finding has already been reported by several authors [13] All these females patients were from rural background and were uneducated. Most likely reason for delayed presentation is lack of awareness, improper health care facilities, faith in quacks & drug abuse.

In this study, non-AIDS defining cancers were more frequent than AIDS defining cancers. Breast cancer was the most common of non-AIDS defining cancers in our study as 3 females had carcinoma breast and 1 had carcinoma ovary. Studies done by other authors like Yanik et al[(14)] in sub-Saharan Africa [13] Uganda [13] and South Africa [15] also supported the same fact. Earlier in developed countries the number of AIDS defining cancers KS and NHL were more but recently one US study, focused on people with AIDS, stated that the number of cases of KS and NHL has declined and non-AIDS-defining cancer increased over time [(12)] and lung cancer is the most common of non-AIDS defining cancers [16,17]. This estimated changes in the cancer burden was largely because of growth and aging of the HIV population due to antiretroviral therapy as supported by authors.

Conclusions

Even though Proportion of HIV+ Cancer (0.23%) is low in our study and universal screening of patients with newly diagnosed cancer for hepatitis B virus (HBV), hepatitis C virus (HCV) and HIV is not routine in oncology practice. But surely the burden of HIV-infected cancer patients will have implications for current and future cancer risk and the total burden of cases. Long term studies with large number of population needs to be done to reach to any definite conclusion and to know the exact burden of HIV in cancer patients and also to determine whether HIV changes the risk factors.Public health interventions and creation of integrated oncology and infectious diseases working groups for clinical research should be encouraged as prevention will be an important tool against these problems.

Ethical Clearance: Taken from Ethical Committee of our Institute.

Source of Fundind: Self.

Conflict of Interest*:* Taken

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