Original Article

Frequency of Anemia in Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome patients

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Objective: To determine the frequency of anemia in HIV/AIDS patients.

Methods: This descriptive cross-sectional survey was conducted at Special/HIV clinic of Medical Unit IV, Services Hospital Lahore over six months from 16-10-2017 to 16-04-2018, using non-probability consecutive sampling. A total of 180 patients fulfilling the inclusion criteria were enrolled. Informed consent was obtained; demographic data and disease characteristics were recorded. Blood sample of each HIV positive (Confirmed by ELISA) patient (containing 3 ml venous blood) was sent to same laboratory for complete blood count. Anemia was defined as hemoglobin level of less than 13g/dl in males and less than 12g/dl in females. SPSS version 23.0 for windows was used to analyse data and to calculate frequency of anemia.

Results: Among the 180 patients, 136(75.6%) were males and mean age was 40.58±12.93 years. A total of 68(37.8%) patients had been diagnosed with HIV for >4 years, while 53(29.4%) and 59(32.8%) had been diagnosed with HIV for <2 and 2-4 years respectively. The most frequent stage was III 48(26.7%), while 40(22.2%), 47(26.1%) and 45(25.0%) was the frequency of Stage-I, Stage-II and Stage-IV respectively.

Mean Hemoglobin level was 11.76±2.38 g/dL. The overall frequency of Anemia in patients with HIV/AIDS was 114(63.3%). Data was stratified with respect to gender, age, disease duration and stage of HIV/ AIDS, Chi-square (x2) test in each of the four stratifications demonstrated absence of statistical significance (p>0.05).

Conclusions: Almost two thirds of all patients with HIV/AIDS were anemic which was approximately every fifth patient. Therefore, special physician attention and timely management can prevent morbidity and mortality associated with it.

Keywords: Anemia, HIV, AIDS, ELISA

Introduction

HIV/AIDS is a spectrum of conditions caused by infection with the human immunodeficiency virus (HIV).[1-3] Initial infection may be asymptomatic or start with fatigue, myalgias or flu-like illness.[4] Infection progresses with time and interferes the immune system, increasing the risk of tuberculosis, opportunistic infections, and tumors that rarely affect people who have normal immune systems.[4,5] Late symptoms representing opportunistic infections are referred to as AIDS.[5] In 2012 about 23.5 million people were living with HIV and it resulted in 1.2 million deaths.[6,7] Most of those infected live in sub-Saharan Africa.[6] Since its discovery in last 30 years approximately 77 million people have been infected with HIV and around 39 million lost their lives due HIV/AIDS.[8]HIV/AIDS is considered a pandemic and is actively spreading.[9] Pakistan has moved from a 'low prevalencehigh risk' to a 'concentrated epidemic' state.[10] WHO identifies anemia as a global public health problem in developing as well as developed countries affecting human health, social and economic development. [11] Anemia is the most common blood disorder, affecting about a third of the global population.[12] Pakistan National survey reveals 50.4% of non-pregnant women were found to be suffering from anemia (49.3% in urban areas and 50.9% in rural areas).[13] Anemia is the most frequent hematological abnormality found in HIV infected patients globally.[14] Anemia is a strong risk factor for progression of disease and subsequent death and it is independent of CD4 count or viral load, even in patients who have initiated antiretroviral therapy.[14]

A South African study found that prevalence of anemia in HIV/AIDS patient was 25.8%.[14] While Iranian study done by Ramezani *et al.* (2012) reported that anemia occurred in 71% of subjects.[15] Starting ART has resulted in improvement of anemia, one study revealed improvement of anemia in 61.8% of the cases at 12 months.[16] Despite the public health importance of anemia, no local data is available. It will

also highlight the importance of early work up and initiation of appropriate therapy with an aim to improve quality of life of such patients.

Methods

Results

Fig-1: Frequency distribution of duration of HIV/aids.

Fig-2: Frequency distribution of Stage of HIV/AIDS → Stage of HIV

Table-1: Stratification of Anemia with respect to Gender (n=180).

Male	88 (64.7%)	48 (35.3%)	180 (100%)
Total	114 (63.3%)	66 (36.7%)	180 (100%)

0.502

Applying Chi-Square test

Table-2: stratification of anemia with respect to duration of hiv/aids (n=180).

<2years	35 (66.0%)	18 (34.0%)	53 (100%)
>4years	41 (60,3%)	27 (39.7%)	68 (100%)

0.792

Applying Chi-Square test