

The Common Reasons of HIV/AIDS in patients and the Clinic Morphological Features of HIV/AIDS presenting in different stages of disease

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ABSTRACT

Aim: To determine the risk factors of the disease and the treatment of the patient's It weakens a person's immune system by destroying important cells that fight disease and infection. No effective cure exists for HIV.

Methods: Prospective cross sectional study was conducted among 38 Patients, already diagnosed patients of HIV who were referred to us for bone marrow aspiration and biopsy due to various indications were included in the study. Patients of all age groups and both sexes were included in the study. The data obtained was analyzed and described. The duration of the study was two years at the Department of Pathology, Pakistan Institute of Medical Sciences (PIMS), Islamabad.

Results: The most common reason was found anemia related. Hepatomegaly was seen in 50% patients while splenomegaly was found in 13.2% of patients. Lymphadenopathy was seen in 18.4. Cytopenias of various degrees was a common finding. Anemia of chronic disease was the most common finding on bone marrow examination. Gender studies showed that the HIV/AIDS was found to be more common among males as compared to females

Conclusion: It is seen that. Majority of patients presented between 31 to 50 years of age. The most important symptoms were anemia related.

Keywords: Human Immuno Deficiency Virus (HIV), Acquired Immune Deficiency Syndrome (AIDS), Mean corpuscular Hemoglobin (MCH), Mean corpuscular Volume (MCV)

INTRODUCTION

Acquired Immune Deficiency Syndrome (AIDS) is the most serious infection for humans. It is caused by Human Immune deficiency Virus (HIV) and results in progressive immunological deficiency due to fall in CD4 T lymphocytes. These immune deficient patients become vulnerable to opportunistic infections and are liable to develop various types of malignancies. Presently 30-40 million people are infected by the HIV. Majority of them are in Sub-Saharan Africa and South East Asia.

HIV is found in the body fluids of an infected person (semen and vaginal fluids, blood and breast milk). The virus is passed from one person to another through blood-to-blood and sexual contact. In addition, infected pregnant women can pass HIV to their babies during pregnancy, delivering the baby during childbirth, and through breast feeding.

HIV is a global problem and its cases are increasing day by day. It can easily spread and due to its long incubation period remain silent in patient

but patient can continue to spread the disease. Even when the symptoms start to appear one may not think of HIV. Most of initial symptoms are infections and anemia. Pakistan is a poor country where sources are limited in every aspect of life including health and social

The purpose of this study is to find basic reasons of HIV/AIDS in patients and study the clinic morphological features of HIV/AIDS in patients presenting in different stages of disease.

MATERIALS AND METHODS

The study was carried out at the Department of Pathology, Pakistan Institute of Medical Sciences (PIMS), Islamabad for two years with a sample size of 38 cases. The sampling technique was non-probability, purposive sampling. A detailed account of clinical history of patients especially regarding age, sex, symptoms with their duration, findings on examination, constitutional features, features of anemia, neutropenia, thrombocytopenia and features related to tissue infiltration were discussed. The patients were especially examined for any lymphadenopathy, hepatomegaly, splenomegaly, petechial rash, ecchymoses, and skin lesions and blood sample of patients. In every patient about 3 ml of blood sample was collected in an EDTA containing

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tube by a clean venepuncture by a 5 ml disposable syringe.

Peripheral blood smears were freshly prepared (at least 2 smears). Complete blood picture was obtained from 3 parts Hematology analyzer. All the patients were subjected to bone marrow aspiration using disposable lumbar puncture needle size 16 after applying all aseptic measures. Multiple smears will be made. Trehpene biopsy will be done, if indicated (suspected malignancy or aplastic anemia). **Data Analysis:** The data will be analyzed Different variables of the study including clinical features, lymphadenopathy, organomegaly, complete blood counts, absolute blood counts, peripheral film findings, Reticulocyte counts, number and morphology of blast cells, typing according to FAB classification, histological sections of trephine biopsies and final diagnosis were entered on SPSS version 10 for final analysis.

RESULT

Table 1: Distribution of patients regarding gender

Gender	n	%age
Male	32	15
Female	6	85

Table 2 Clinical Features Of HIV patients various peripheral blood parameters in HIV patients

Hematological Parameter	Mean ± SD
Hemoglobin (g/dl)	7.42 ± 2.20
White cell count ($\times 10^3/\mu\text{l}$)	5.73 ± 4.64
Red cell Count ($\times 10^9/\text{l}$)	2.63 ± 0.78
Hematocrit (%)	22.57 ± 6.01
MCV (fl)	87.26 ± 12.70
MCH (pg)	28.20 ± 4.38
MCHC (g/dl)	32.36 ± 2.09
Platelet count ($\times 10^3/\mu\text{l}$)	126.95 ± 86.48

Table 3: Pattern of Abnormal Blood Cell Counts in HIV patients (n 38) Anemia in HIV Patients (n 38)

Thrombocytopenia in HIV patients

Platelets Count ($\times 10^3/\mu\text{l}$)	n	%age
100 – 150	5	13.2
50 -100	7	18.4
20 -50	6	15.8
10 – 20	3	7.9
< 10	1	2.6

DISCUSSION

In the present study patient's age ranged from 1 year to 70 years. The maximum number of patients were of the age from 41 to 50 years by patients between the age of 31 and 40 years. In this study among the total of 38 patients belonging to all age groups, 32 were males and 06 were females. In the children 1(50%) was male while 1(50%) was female. Pallor

was the most common feature observed in 37(97.4%) patients, followed by weakness and easy fatigability both of which were observed in 36(94.7%) patients each. Weight loss was mentioned in 17(44.7%) patients. Shortness of Breath on exertion was noticed in 17(44.7%) patients while in 2(5.3%) it was on rest as well. Low, intermediate and high grade fever was found in 14(36.8%), 4(10.5%) and 7(18.4%) of patients, respectively. Twelve (31.6%) patients gave history of diarrhea. Oral thrush was noted in 6(15.8%) patients while the same number of patients complained of body aches. Five (13.2%) patients gave history of cough. Four (10.5%) patients felt palpitation. History of bleeding was given by 1(2.6%) patient only. In our patients, hemoglobin level ranged from 3.1 to 15.7g/dl with mean±SD of 7.42g/dl±2.20. In a total of 38 patients in the present series, 37(97.4%) were found to be anemic. Only one patient had Hb within normal range. Total white cell count had a wide range from 1.4 to $20.8 \times 10^3/\mu\text{l}$ with mean±SD of 5.73±4.64. Leucopenia was observed in 12 (31.6%) patients. Leukocytosis was seen in 3 (7.9%) patients. Red cell count ranged from 1.25 to $5.06 \times 10^9/\mu\text{l}$ with mean±SD of 2.63±0.78. Hematocrit ranged from 9.2 to 41.0 with mean±SD of 22.57±6.01. MCV ranged from 64.7 to 125.5 fl with mean±SD of 87.26±12.70. MCH ranged from 17.6 to 40.7pg with mean ± SD of 28.20±4.38. MCHC ranged from 27.2 to 38.3 g/dl with mean±SD of 32.36±2.09. Platelets count ranged from 9 to $366 \times 10^3/\mu\text{l}$ with mean±SD of 126.95±86.48. Monocytopenia was found in 6(15.8%), bicytopenia in 23(60.5%) and pancytopenia in 9(23.7%) patients. In all 6 cases of monocytopenia only the Hb level was below the normal range. Anemia with thrombocytopenia and Anemia with Leukopenia were found in 11(29%) patients and 12 (31.6%) patients respectively. Anemia with leulocytosis was observed in 3(8.3%) patients while Leukocytosis with Thrombocytopenia was prominent in 7(21.1%) patients. Severe anemia with Hb ≤ 4g/dl was found in one patient (2.6%). Hb 4.1 to 6 g/dl was observed in 10(26.3%). Hb 6.1 to 8 g/dl was found in maximum number of 15(39.5%) patients. Hb 8.1 to 10g/dl was present in 10 patients (26.3%). Hb 10.1 to 12.5g/dl was present in one patient (2.6%).

CONCLUSION

- HIV/AIDS was found to be more common among males as compared to females.
- Majority of patients presented between 31 to 50 years of age.
- I/V drug abuse was not a cause of HIV in patients of our study.

- The most important symptoms were anemia related.
- Hepatomegaly was seen in 50% patients while splenomegaly was found in 13.2% of patients. Lymphadenopathy was seen in 18.4%
- Cytopenias of various degrees was a common finding.
- Anemia of chronic disease was the most common finding on bone marrow examination.
- Kaposi's sarcoma was seen in only 2 patients. Other malignancies seen were ALL and NHL.

RECOMMENDATIONS

HIV/AIDS being a global health issue needs to be addressed at our national level as well with greater commitment. Focus needs to be laid down at undergraduate level by incorporating the subject vastly in health education system. Ethical and moral issues should be taken up and highlighted in this system.

Awareness campaigns should be launched at a mass level by incorporating electronic and print media. Masses should be mobilized at community level utilizing the services of religious and political leaders and government and non government organizations.

Diagnostic, therapeutic, preventive and counseling facilities should be easily accessible to the public.

Research on HIV/AIDS should be promoted and facilitated at all levels.

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