

Haematological Profile among HIV Patients on Zidovudine Containing Anti-Retroviral Therapy

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HIV Centre at PIMS

- Establishment
- No of Registered Patients
- Referrals
- No of Patients on HAART Therapy
- Criteria for HAART Therapy
- No of Deaths

HIV Centre at PIMS...

- Diagnosis of HIV
- PCR
- CD 4 & CD 8 Counts
- HAART Therapy

Hematological Abnormalities in HIV Patients

- Anemia
- Leucopenia
 - Lymphopenia
 - Granulocytopenia
- Thrombocytopenia

Objective

- To assess the abnormalities of peripheral blood parameters in patients on Anti-Viral therapy (after six months of treatment)

Study Type

- Retrospective Descriptive Study
- Analysis Based on 26 Selected Patients whose Pre Treatment and Post Treatment Blood CP were Available.
- Hemoglobin Concentration, Total Leucocyte Counts, Total Platelet Counts and MCV were compared in Pre Treatment and Post Treatment Results

CD 4 Counts

Frequencies	Pre Treatment
Mean	127
Std Deviation	\pm 131
Range	405
Minimum	04
Maximum	409

HB Concentration

Frequencies	Pre Treatment	Post Treatment
Mean	10.6	8.6
Std Deviation	+ 2.5	+ 3.5
Range	14	13.6
Minimum	1	1.8
Maximum	15	15.4

P Value 0.031

MCV

Frequencies	Pre Treatment	Post Treatment
Mean	89.2	97.2
Std Deviation	<u>+</u> 10.5	<u>+</u> 16.3
Range	50	58.4
Minimum	78	64
Maximum	115	122.4

P Value 0.068

Total Leucocyte Count

Frequencies	Pre Treatment	Post Treatment
Mean	6116	5134
Std Deviation	+ 3190	+ 2246
Range	16,000	8,700
Minimum	1600	900
Maximum	16,300	9,600

P Value 0.446

Platelet Count

Frequencies	Pre Treatment	Post Treatment
Mean	224653	172041
Std Deviation	+ 144259	+ 94657
Range	679000	381000
Minimum	50000	15000
Maximum	729000	396000

P Value 0.567

Drop in HB Concentration

3 Patients had a Drop of 1 gm/dl (11.5%)

4 Patients had a Drop of < 1 gm/dl (15.3%)

13 Patients had a Drop of > 3 gm/dl (50%)

6 Patients had no Drop in HB Concentration (23%)

7 Patients Developed Macrocytosis (26.9%)

Comparison With Other Studies

- No Study have been found in Pakistan on Zidovudine or HAART Related Side Effects
- Although our Data is Small but the Results are still Significant.

Comparison with Other Studies

- There were 61% patients who develop anemia in our study
- If we compare with other hematological studies hematological toxicity was found in 60% of the patients on combination therapy with Zidovudine, Lamivudine & Efavirenz for the initial treatment done in 2008

(Berengeuer J, etal clinical infectious disease 2008 October 15th)

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- A study done in India 2008 followed about 100 patients for side effects of HAART therapy for 02 Years
- Side Effects were observed in 64 cases (71.1%)
- Among these patients 32.2% developed anemia

(Sharma A, etal Indian Journal of Dermatology May-June 2008)

Continue

- Another study done in France
- 107 Patients receiving HAART Therapy were followed up the hematological changes at the end of first six months showed anemia in 51.4 % Cases

(Nacoulma EW, etal Bull Soc Pathol Exot Oct 2007)

Continue

- In a study at USA concluded that patients on ZDV containing HAART Therapy are at Greater risk of developing new anemia or worsening anemia than non ZDV containing therapy
- Significant Predictors of anemia were ZDV, Low initial HB, Injecting Drug Use, CD 4 counts <200 cells/microL

(Curkedall SM, etal Med Nov 2008)

Continue

- An observational database from Asia showed anemia (HB < 10grams/dl) occurred in the first six months in 57 of 433 patients on Zidovudine (13%)

(Huffan SE, etal Med Oct 2007)

Conclusion

- All of these studies support the fact that Anemia is a Common problem with Zidovudine
- Baseline anemia was the strongest predictive factor for subsequent anemia.
- Clinicians must identify adverse effect of HAART therapy when ever possible so on to avoid subsequent problems.



Thank You

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