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Effects of Hepatitis C on Hematological Parameters in local areas of Mirpurkhas

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Abstract:

Introduction: Various diseases have emerged as a major cause of morbidity and mortality in patients with human immunodeficiency virus (HIV) and hepatitis B virus (HCV) confection, now that antiretroviral therapies become more effective e and has prolonged life expectancy in HIV-infected patients[1]. One of the most frequently identified extra-hepatic abnormalities often seen at the time of diagnosis of HIV is the hematological abnormality

Objective: To determine possible effects of Hepatitis C in local Population of Mirpurkhas

Methodology:140 diagnosed patients of Hepatitis C were selected from OPD/Ward MMCH and Civil Hospital Mirpurkhas, Patients of Hypertension, Heart Failure, Renal diseases and respiratory disease were excluded Their ALT, GGT, Alk Sodium was determined by kit method. Their RBC count, TLC, Platelet Count was counted and ESR was determined

Results: It was a prospective study and out of 140 hepatitis C patients 86 were male and 54 were female. The mean age was 54.77 ± 14.046 years. The mean height was 159.42 ± 11.188 cm and the mean weight was 53.69±10.604 Kgs. The mean BMI was calculated as 21.235 ± 5.0607 kgs/m^2 (Table.1). The mean Hemoglobin was estimated as 10.639± 2.6924 gm% the mean RBC count was found 3.832 ± .8460 millions/cmm. The mean total leukocyte count was 9111.63 ± 4612.845 per cmm and the mean Platelet count was 160447.67 ± 93788.194 /dl. the mean ESR was 51.70 ± 26.320 (Table.2) The mean Alkaline phosphatase was 273.76± 96.818 IU, the mean GGT was 83.40 ± 102.650 IU and the mean ALT was 74.98 ± 58.614 IU. (Table.3.) The Correlation of hepatitis C was estimated by Pearson's correlation using SPSS 15 and found that hepatitis has a significant correlation with Hemoglobin, RBC count, TLC and Platelet count (r=.167, .165, .181, 238 and p=.092*, .031*, 018* and .002** respectively) and it has an inverse correlation with ESR (r=-.213, p=.005**)

Conclusion: Our data shows that hepatitis C has positive correlation with Hb, RBC Count, TLC and Platelet count while the hepatitis has a significant inverse correlation with ESR. More work is required to establish criteria regarding correlation between Hepatitis C and Hematological parameters

Introduction:

Human immunodeficiency virus (HIV) and hepatitis C virus (HCV) are global health problems Due to shar ed routes of transmission; confection with the two viruses is common and represents an emerging area of interest both in clinical practice and research[1]. More than 4 million people in the United States are acutely or chronically infected with hepatitis C virus (HCV)[2,3]. The incidence in sub-Sahara Africa ranges between 9% and 20%4. Liver disease has emerged as a major cause of morbidity and mortality in patients with human immunodeficiency virus (HIV) and hepatitis C virus (HCV) confection, now that physio therapy has become more effective and has prolonged life expectancy in HIV-infected patients1. One of the most frequently identified extrahepatic abnormalities often seen at the time of diagnosis of AVH is the hematological abnormality 2. The interpretation of the result will require an understanding of the frequency of detection of normal hematological results in these patients in relation to the disease Patients with AVH unlike those with chronic hepatitis often present with nonspecific symptoms which may mimic other more common infections seen in sub-Saharan Africa5 Preliminary data suggest that the infection itself can also induce autoimmune hemolytic anemia, leukopenia, and thrombocytopenia6-10.

Objective: To determine possible effects of Hepatitis C in local Population of Mirpurkhas

Methodology: 140 diagnosed patients of Hepatitis B were selected from OPD/Ward MMCH and Civil Hospital Mirpurkhas, Patients of Hypertension, Heart Failure, Renal diseases and respiratory disease were excluded. Their pulse, Blood pressure were estimated, Their ALT, GGT, Alk Sodium was determined by kit method using automatic analyzer, Their PCV count, TLC, Platelet Count was counted by automatic cell counter and ESR was determined by Western Green Method.

Results:

It was a prospective study and out of 140 hepatitis C patients 86 were male and 54 were female. The mean age was 54.77 ± 14.046 years. The mean height was 159.42 ± 11.188 cm and the mean weight was 53.69±10.604 Kgs. The mean B MI was calculated as 21.235 ± 5.0607 kgs/m2 (Table.1). The mean Hemoglobin was estimated as 10.639± 2.6924 gm% the mean RBC count was found 3.832 ± .8460 millions/cmm. The mean total leukocyte count was 111.63 ± 4612.845 per cmm and the mean Platelet count was 160447.67 ± 93788.194 /dl. The mean ESR was 51.70 ± 26.320 (Table.2) The mean Alkaline phosphatase was 273.76± 96.818 IU, the mean GGT was 83.40 ± 102.650 IU and the mean ALT was 74.98 ± 58.614 IU. (Table .3.) The Correlation of hepatitis C was estimated by Pearson's' correlation using SPSS 15 and found that hepatitis has a significant inverse correlation with Hemoglobin, RBC count, TLC and Platelet count(r=.-

.167, -.165., . -.181, -.238 and p=.09*, .031*, 018* and .002** respectively) and it has significant correlation with ESR (r=-.213, p=.005**).

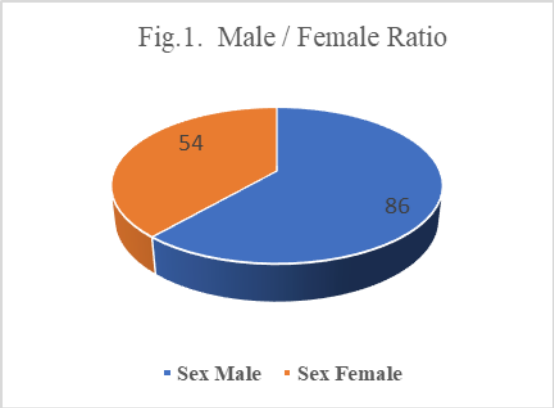

Table.1. Mean Value of Age, Height, Weight and BMI

	Age	Height	Weight	BMI
Mean	51.77	159.42	53.69	21.235
Std. Deviation	14.046	11.188	10.604	5.0607

Table.2. Mean Value of Hemoglobin, RBC count, Total Leukocyte Count, Platelets and ESR

	Hb%	RBC	TLC	Platelet Count	ESR
Mean	10.639	3.832	111.63	160447.67	51.70
Std. Deviation	2.6924	.8460	4612.845	93788.194	22.320

Table.3 Mean Values of Alkaline phosphate, Gamma Glutamyl Transferase and Alanine aminotransferase

	Al Ph*	GGT**	AAT***
Mean	273.76	83.40	74.98
Std. Deviation	90.818	102.650	58.614

Alkaline Phosphate*, Gamma Glutamyl Transferase**, Alanine Amino Transferase***

Table.4. Pearson 's correlations

Variables	Correlation coefficient (r)	p-value
Hemoglobin	-.167	.09*
RBC Count	-.165	.031*
TLC	-.181	.018*
Platelet Count	-.238	.002**
ESR	.213	.008

* =significant p <.50, * * =Highly Significant p <.000,

Discussion:

There is a rising incidence of hepatitis C all over the country as well as worldwide; our study shows that the hepatitis is more common in advanced age 54.77 ± 14.046 years. (Table.1) while a study in Nigeria shows that the mean age of the HIV-infected hepatitis C patients was 36.4 ± 8.4 years while the mean age of the control subjects was 37.0 ± 7.9 years[4]. In another study in Nigeria shows anemia was detected in 12 (24%) patients. Marked anemia is an infrequent finding in patients with acute viral hepatitis[6]. In a study by Perseghin P the anemia observed in 24% of our patients is not unusual in acute viral hepatitits[11]. The mean PCV were 36.2L/L and 35.3L/L for males and female patients respectively. That also evident from our study that the mean Hemoglobin conc. In hepatitis C patients was 10.639± 2.6924 gm% and the RBC count 3.832 ± .8460 million/cubic mm. In same study, mean WBC count among the patients was 8.1+114x109/L while in our study the mean TLC was 111.63 ± 4612.845 per cmm. Thrombocytopenia in patients with chronic hepatitis C virus (HCV) infection is a major problem. The pathology is multifactorial, with auto-immunogenicity, direct bone marrow suppression, hypersplenism, decreased production of thrombopoietin and therapeutic adverse effect all contributing to thrombocytopenia in different measures. The mean Platelet count in our study was 160447.67± 93788.194The Correlation of hepatitis C was estimated by Parsons correlation using SPSS 15 and found that hepatitis has a significant inverse correlation with Hemoglobin, RBC count, TLC and Platelet count (r=.-.167, -.165., . -.181, -.238 and p=.09*, .031*, 018* and .002** respectively) and it has significant correlation with ESR (r=-.213, p=.005**). .4)

Conclusion:

All these figures show that the anemia is evident with leukopenia and there is increased ESR in response to hepatitis.

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