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Research Article

A CLINICAL STUDY ON HAEMATOLOGICAL MANIFESTATIONS IN ALCOHOLICS AND NON ALCOHOLICS

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ABSTRACT

Alcohol consumption is known for morbidity and mortality due to the involvement of multiple organs. Alcohol can lead to all types of anemia with suppression of bone marrow.
AIM: This study is designed to study the various haematological abnormalities in alcoholics.
Material and Methods: In our study 50 patients who were alcoholics and Admitted in various wards in our hospital were included in the study.
Results: Alcoholism was more common among men in middle aged group and a feature of lower socio economic group. Anemia was the predominant feature among chronic alcoholics. Severity of anemia was related to the severity of alcohol intake with an increased risk of infection among alcoholics.

INTRODUCTION

Alcoholism represents one of the most serious worldwide socio economic health problem. The amount of alcohol capable of producing diseases depend on variety of factors including genetic predisposition malnutrition and concomitant viral infection of the liver. Alcohol consumption is known for morbidity and mortality, being a serious health hazard of the world. According to national council of alcoholism and drug dependence alcoholism is a primary chronic disease with a genetic, psycho social and environmental factors influencing its developmental manifestations. Multiple organs can be damaged in alcoholics like Hepatobiliary system, Cardiovascular system, Central nervous system, Haemopoietic system. Alcohol can lead to all types of anemia with suppression of bone marrow.

Many a times haematological changes are left undetected and untreated which could progress to cardiomegaly later on leading to cardiac failure. Alcoholism is considered a progressive disease, meaning that the symptoms and effects of drinking alcohol become increasingly more severe over duration of alcohol intake and quantity of alcohol intake. Early detection and treatment of haematological changes can prevent complications and reduce the mortality, these are the basis and the need for the study.

Objectives

1. To describe haematological changes in alcoholics
2. To study the haematological changes with respect to the quantity of alcohol consumption quantity and duration of alcohol consumption.
3. To compare the haematological changes in alcoholics and non alcoholics

Materials and Methods

A total of 50 persons who consume alcohol and admitted into various wards in our Hospital were taken into the study. Along with alcoholism 25 Non Alcoholics were taken as controls.

All the study population (Cases and Controls) were subjected to following investigations

Complete Blood Picture, Liver Function tests, ECG, Ultrasound Abdomen, Bone marrow biopsy and Aspiration, CECT Abdomen (If Needed).

Inclusion Criteria

- All adult patients who consume alcohol above the age of 18years.
- Patients who were willing for the study

Exclusion Criteria

- All patients who are less than 18 years
- Patients with other hepatic disorders

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- Patients receiving hepato toxic drugs

RESULTS

The collected data has been compiled in following formats.

Table 1 Age Incidence in Alcoholics and Non Alcoholics

Age IN Years	Alcoholic		Non Alcoholic	
	Number	Percentage	Number	Percentage
21 – 30	5	10.0	1	4.0
31 – 40	13	26.0	6	24.0
41 – 50	18	36.0	7	28.0
51 – 60	9	18.0	7	28.0
>60	5	10.0	4	16.0
TOTAL	50	100.0	25	100.0

In present study the maximum incidence of alcoholics were in the age group 31-50 years. (31/50) 62%. Alcoholism was un common below 20years and above 65years.

Table 2 Comparision of Symptom Incidence in Alcoholics and Non Alcoholics

Chief complaints	Alcoholic		Non Alcoholic	
	Number	Percentage	Number	Percentage
Jaundice	34	68.0	6	24.0
Pain Abdomen	12	24.0	7	28.0
Abdomen Distension	38	76.0	7	28.0
Bilateral Pedal Edema	18	36.0	7	28.0
Hematesis	6	12.0	7	28.0
Malena	7	28.0	1	4.0
Fever	10	20.0	6	24.0
Altered sensorium	6	12.0	0	0.0
Breathlessness	5	10.0	0	0.0

In present study 76% of patients who consume alcohol presented with distension of abdomen followed by jaundice (34/50)68%, Bilateral pedal edema 36%, Pain abdomen 24%, Haemetemesis 12%, malena 28%, breathlessness 10% and altered sensorium 12% .

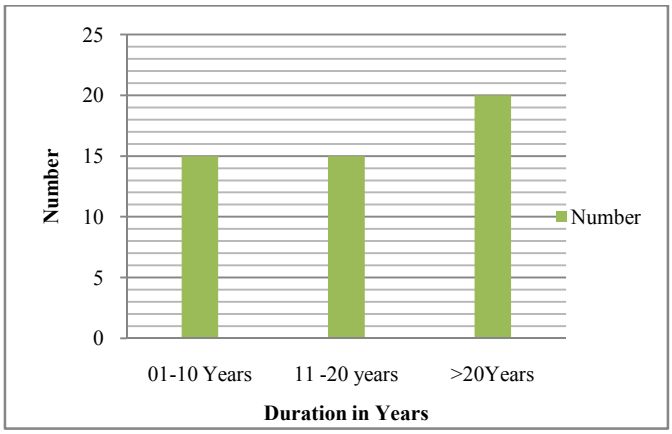

Figure 1 Duration of Alcohol intake

In the present study the min duration of alcohol consumption was 5 years and maximum duration was more than 20 years.
In our present study 30% were alcoholics for 5-9 years.30% were alcoholics for 10 -19 years and 40% were alcoholics for more than 20 years.

Table 3 Comparision of MCV levels with severity of alcohol consumption

MCV	Modermoderate Alcohol (n=26)	Seve severe Alcohol (n=24)
< 99fl	18 (69.2%)	13 (60.5%)
> 99 fl	8 (30.8%)	9 (37.5%)

The mean MCV in moderate alcoholics was 11620.83±7310.56fl. In severe alcoholics it was 93.86±9.52 The highest was 110.6fl.

Table 4 Comparision of peripheral blood smear in alcoholics and non alcoholics

Peripheral Blood Smear	Alcoholics (n=50)	Non-Alcoholics (n=25)
Normocyctic Normochromic Anemia	20 (40.0%)	21 (84.0%)
Macrocytic Anemia	13 (26.0%)	1(4.0%)
Microcytic Hypochromic Anemia	14 (28.0%)	3(12.0%)
Dimorphic Anemia	3(6.0%)	0
Thrombocytopenia	5(10.0%)	0
Pancytopenia	2(4.0%)	0

In the present study peripheral blood smear showed all types of anaemia. Normocytic normchromic anaemia was present in 40% of patients. Next predominant was microcytic hypochromic anaemia in 28% of patients followed by Macrocytic aneamia 26% patients. Dimorphic anemia was present in 6% of patients. However even the non alcoholic patients also showed Normocytic normchromic anaemia 81% and 12% showed microcytic hypochromic anaemia. Thrombocytopenia was present in 10% of alcoholics. The lowest count was 40,000. Pancytopenia was present in 4% of patients.

Table 5 Bone marrow cytology in alcoholics

Bone marrow examination	Percentage %
Normal	46%
Abnormal	44%
Erythroid hyperplasia	10%
Megaloblastic picture	14%
Myelodysplastic picture	1%
Sideroblastic	8%
Vacuolated RBC	10%

In the present study 46% showed normal bone marrow. Abnormal bone marrow picture was seen in 44% patients. Among which megaloblastic picture was seen in 14% of alcoholics. Erythroid hyperplasia was seen in 10%. Vacuolated RBC was seen in 10%. Sideroblasts was seen in 8% of alcoholics. 1 patient showed myelodysplastic picture.

Table 6 Comparision of LFT in alcoholics and non alcoholics

LFT	Alcoholics (n=50)	Non-Alcoholics (n=25)
Total Bilirubin	6.02±5.45	1.04±0.27
Direct bilirubin	3.14±3.53	0.66±0.21
Total protein	5.98±0.96	5.84±0.78
Albumin	2.45±0.52	2.42±0.56
SGOT	94.46±68.71	51.88±10.41
SGPT	78.42±51.37	40.64±10.33
ALP	144.22±122.64	60.52±13.43

In the present study the mean total bilirubin was 6.02± 5.45. The highest value was 26. Direct bilirubin was 3.14±3.53. Total protein was 5.98±0.96. Albumin was 2.45±0.52. SGOT was 94.46±68.71. SGPT was 78.42±51.37 and alkanine phosphatase was 144.22±122.64.

DISCUSSION

In the study, highest incidence of alcohol consumption observed in the age group 41-50 years (36%) followed by age group 31-40 years (26%). It is observed that 76% patients presented with distension of abdomen followed by 68% with jaundice, 36% with bilateral pedal edema, 28% with malena, 24% with pain abdomen, 12% with haemetemesis, 12% with altered sensorium and 10% with breathlessness. 40% of patients consumed alcohol for > 20 years, 30% patients for 11 - 20 years, 30% for 1 to 10 years and 5% were consuming alcohol for less than 5 years.

Among these 50 patients 60% of the alcoholics had anemia. The mean haemoglobin was 9.58 gm% among moderate alcoholics and 8.59gm% among severe alcoholics. and 11.63gm% among non alcoholics. In the present study MCV in moderate alcoholics was 116.2 ± 7.31 fl. in severe alcoholics it was 93.86 ± 9.52. The highest was 110.6fl. Megaloblastic anemia is seen in 30.8% patients with moderate alcoholics and 37.5% patients with severe alcoholics. The mean MCV in women is 99.72fl compared with 94.3 in the male alcoholics. It is suggested that MCV is a better indicator of excessive alcohol consumption in women than in men, and women are more susceptible to the hematological toxicity of alcohol. Platelet count showed a mean of 2.00±0.65 lakh in moderate alcoholics and in severe alcoholics the plate let count was a mean of 1.880±0.73 lakh. In our study 10% of our study group had thrombocytopenia, may be due to transient intravascular haemolysis associated with alcoholic liver disease.

In the study it is observed that moderate drinkers showed normocytic normochromic anaemia and severe alcoholics showed macrocytic anemia in the peripheral blood smear. 40% of alcoholics showed normocytic normochromic anaemia, 26% of alcoholics showed macrocytic anaemia, 28% showed microcytic hypochromic, 6% dimorphic anaemia, 10% thrombocytopenia and 4% pancytopenia. In the study 44% of alcoholics showed abnormalities. 10% showed erythroid hyperplasia, 10% showed vacuolated red blood cells, 8% showed sideroblasts and 14% showed megaloblastic bone marrow. 1 patient or 1% showed myelodysplastic marrow. The bone marrow abnormalities were related to the duration of alcohol intake. Out of the patients who had abnormal bone marrow 74% were severe alcoholics with chronic consumption and 34% were moderate alcoholics.

CONCLUSION

Alcoholism was present in both in men and women but more common among men in middle age group. It's predominantly present in low socio economic group. Anemia is the most common feature among chronic alcoholics. Severity of anemia appears to be related to duration of alcohol intake and quantity of intake. All types of anemia can be seen in alcoholics but predominant was Megaloblastic Anaemia. Bone marrow studies reveal predominantly megaloblastic picture. Thrombocytopenia was seen in chronic alcoholics. Hematological manifestations are reversible with cessation of alcohol. Early detection and treatment of hematological manifestations in alcoholics will prevent fatal complications and reduce the mortality. Fatal complications are seen most commonly in people taking country made alcohol

References

1. J. Latvala, S. Parkkila, J. Melkko, and O. Niemelä Acetaldehyde adducts in blood and bone marrow of patients with ethanol-induced erythrocyte abnormalities. MolMed. 2001 June; 7(6): 401-405.
2. D M Chalmers, I Chanarin, S Macdermott, A J Levi Journal of Clinical Pathology 1980;33:3-7; doi:10.1136/jcp.33.1.3 BMJ Publishing Group Ltd & Association of Clinical Pathologists. Sex-related differences in the hematological effects of excessive alcohol consumption.
3. Harold S. Ballard, M.D The Hematological Complications of Alcoholism. Alcohol Health & Research World, Vol. 21, No. 1, 1997 American Journal of Hematology Reversible bone marrow hypoplasia induced by alcohol July 2006 Volume 37 Issue 2**,** Pages 120 – 123.
4. H Koivisto, J Hietala, P Anttila, S Parkkila, O - The Journal of laboratory and clinical medicine, – ElsevierJ Lab Clin Med. 2006 Apr; 147(4):191-6. Long- term ethanol consumption and macrocytosis: diagnostic and pathogenic implications.
5. H. Koivisto, J. Hietala, P. Anttila Journal of Laboratory and Clinical Medicine Longterm ethanol consumption and microcytosis. , 2001 Volume 147, Issue 4, Pages 191-196.

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