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Clinicoaetiological Profile of Splenomegaly among Adult Patients Admitted in a Tertiary Care Hospital

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Abstract
Background: *Splenomegaly quite often presents as a diagnostic challenge. A patient presenting with splenomegaly may have a wide range of symptoms, signs and test results that are common to various diseases: some benign and self-limiting, some infective and others malignant.*
Objectives: *The aim of the present study was to evaluate the clinico-aetiological profile of splenomegaly and to study its haematological parameters.*
Results: *Of the total of 100 patients included in the study the most common aetiology was infectious cause, followed by congestive splenomegaly. Neoplastic causes even though less prevalent was found to be associated with massive splenomegaly.*

Introduction

The spleen is a specialised organ which serves multiple functions including erythrocyte clearance, innate and adoptive immunity and the regulation of blood volume. The clinical finding of a palpable spleen was previously considered to be evidence of splenic enlargement, but up to 16% of palpable spleens have been found to be of normal size on radiological assessment. On ultrasound examination, ‘‘craniocaudal length” is used most often to measure splenic size; this correlates well with splenic volume, particularly when the right lateral decubitus position is adopted. A maximum length of 13 cm is a typical limit.Spleen being a part of the reticuloendothelial system is involved in a wide range of diseases.In most of the cases splenic involvement present as splenomegaly

Materials and Methods

This study was conducted among 100 adult patients admitted in the medical wards of Kanyakumari government medical college over a period from November 2017 – April 2018 for a period of 6 months. After obtaining informed consent, patients were enrolled for the study, detailed clinical examination and relevant investigations were carried out.

Hemoglobin estimation Complete Blood Count Platelet Count Red cell indices (MCV, MCH, MCHC, RDW) were done on fully automated cell counter. Blood smears were stained with Leishmann stain and studied in detail. Bone marrow aspirate, serological tests for malaria, dengue, human immunodeficiency virus (HIV) and Rheumatoid Arthritis Factor (RA), radiological investigations such as

ultrasonography, 2D echocardiography were carried out wherever required. Data collected was analysed to find out the etiology of splenomegaly and its hematological manifestations

Grading was done by Hackett's grading, which is WHO accepted grading and as follows:

Class 0 - Spleen not palpable even on deep inspiration.

Class 1 - Spleen just palpable below costal margin on deep inspiration.

Class 2 - Spleen palpable but not beyond a horizontal line half way between the costal margin and umbilicus.

Class 3 - Spleen palpable more than half way to umbilicus, but not below a line running horizontally through umbilicus.

Class 4 - Spleen palpable below umbilicus but not below a horizontal line between umbilicus and pubic symphysis.

Class 5 - extending more than class 4

Class 1 and 2 considered as mild splenomegaly, class 3 - moderate; and class 4 and 5 as massive splenomegaly

Inclusion Criteria

Adult patients >20 years of age;

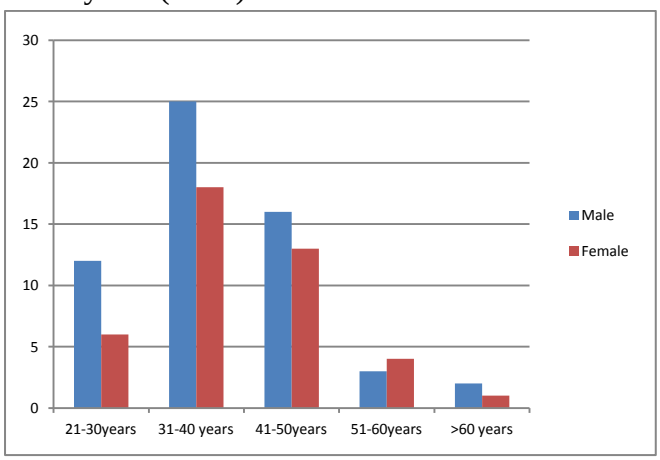
Splenomegaly detectable by palpation and percussion; confirmed by ultrasonography

Exclusion Criteria

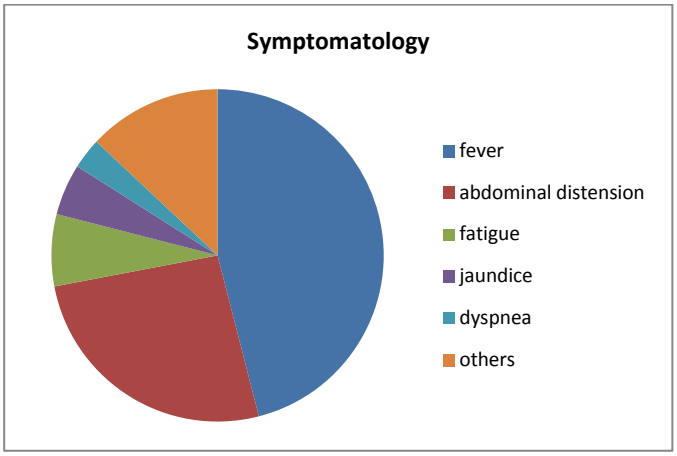
Age below 20 years

Observation and Analysis

Of the total of 100 patients studied 58 patients were male and 42 were female, the ratio being 1.4:1.Most of the patients were in the age group of 31-40 years (n=43)s.



The various symptoms for which the patient seeked admission included fever, abdominal distension, abdominal pain, generalised fatigue, swelling of lower limbs ,jaundice, petechiae, breathlessness, haematemesis, polyarthralgia and altered sensorium

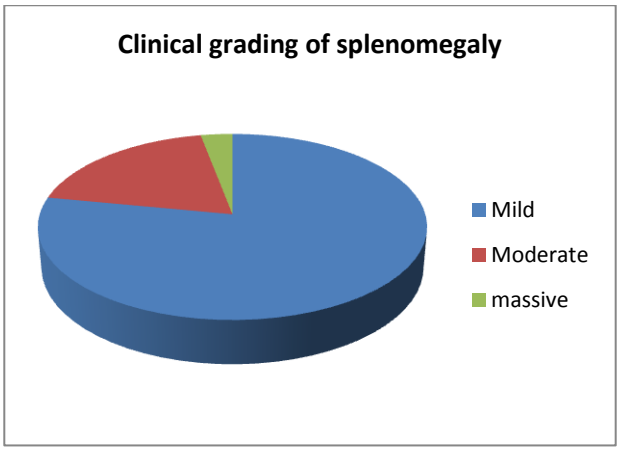


Majority of the splenomegaly cases in our study was found to be mild to moderate and only a small proportion had massive splenomegaly (n=5). The peripheral smear study among the patients showed the reports as follows.

PERIPHERAL SMEAR REPORT	NUMBER OF PATIENTS
Normochromic normocytic	20
Microcytic hypochromic	25
Macrocytic	8
Dimorphic	10
Thrombocytopenia	20
Leucocytosis	9
Malarial parasite	4
Reticulocytosis	2
Myeloblast	2

7 patients underwent bone marrow examination as a part of further work up of which 2 cases showed chronic myeloid leukemia, 3 cases gave the picture of dimorphic anemia,1 case showed iron deficiency anemia picture and one case was reported as normal.

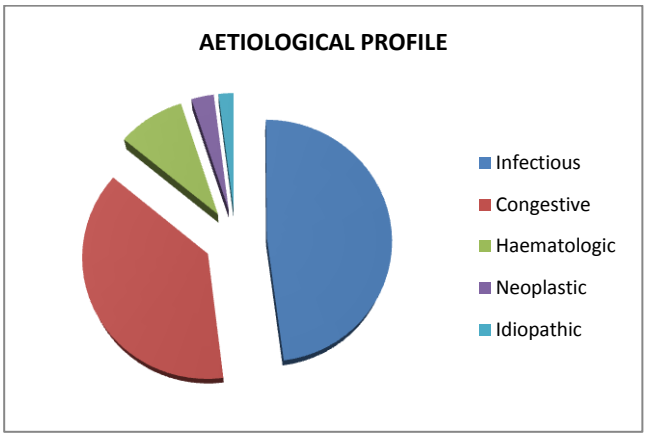
Upon doing ultrasonogram 85 patients had mild splenomegaly, 12 patients had moderate splenomegaly and 3 patients had massive splenoegaly., and 42 patients had concomitant hepatomegaly.



Among the 100 patients studied,48 patients presented with fever which upon further workup 20 patients were diagnosed as dengue,6 patients malaria,5 hepatitis B,2 enteric fever, 3 HIV positive patients, 1 patient had infective endocarditis and for the rest of the 11 patients all the serological tests turned out to be negative and were labelled as viral fever with thrombocytopenia. Hence the major proportion of causes was attributable to inflammatory causes. Among the total of 38 congestive causes, 34 patients had cirrhosis of liver, two of them had cardiac cirrhosis, one Budd chiari syndrome and one case of portal vein thrombosis. Among the cirrhotic patients alcoholic liver disease was the most common aetiology. Among the haematological cases 4 patients had iron deficiency anemia, 2 patients had dimorphic anemia, 3 patients had autoimmune haemolytic anemia, 2 patients had chronic myeloid leukemia. Among the neoplastic causes 2 patients had chronic myeloid leukemia and 1 patient had hepatocellular carcinoma. In 2 patients the cause of splenomegaly could not be determined

CLINICAL DIAGNOSIS	NUMBER OF PATIENTS
INFECTIOUS	**48**
Dengue	20
Malaria	6
Hepatitis B	5
Enteric fever	2
HIV	3
Infective endocarditis	1
Viral fever with thrombocytopenia	11
CONGESTIVE	**38**
Cirrhosis of liver	34
Cardiac cirrhosis	2
Budd chiari syndrome	1
Portal vein thrombosis	1
HAEMATOLOGIC	**9**
Iron deficiency anemia	4
Autoimmune haemolytic anemia	3
Dimorphic anemia	2
NEOPLASTIC	**3**
Chronic myeloid leukemia	2
Hepatocellular carcinoma	1
IDIOPATHIC	**2**

So in this study the aetiology could be established in 98 out of 100 patients with 48% due to infectious causes followed by congestive (38%), haematologic (9%) and neoplastic (3%).



Conclusion

Splenomegaly should be properly evaluated in any patient as it could be due to both haematological and non haematological causes. It quite often helps in unmasking a severe underlying illness. In our study infectious causes were seen in the majority of patients, but it should be kept in mind that the aetiological profile varies from region to region.

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