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SPLENOMEGALY : CLINICAL AND ETIOLOGICAL PROFILE

General Medicine

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ABSTRACT

Splenomegaly is an important clinical finding that should be pursued to reach for the etiological cause.This study composed of 156 cases presenting with various symptoms and signs associated with splenomegaly. These cases were evaluated with the observation of presenting clinical features with the routine and relevant examination keeping in view of the diseases prevalent in the area.The study reached the conclusion with the following as the etiolgical causes of Splenomegaly, Infections (50.64%) prevalent in the area, congestive causes (32.69%),haematological causes (14.10%) including haematological malignancy. The study also found that grade 3 and 2 splenomegaly were common on presentation based on the etiology.

KEYWORDS

Splenomegaly, Clinical, etiological profile

INTRODUCTION:

The physiological function of spleen is Phagocytosis and antibody production in response to infection. Spleen in normal individuals is not enlarged and palpable. Reasons for the enlarged spleen may be due to excessive physiological activity or structural abnormality as seen in infection and haemoglobinopathies. Splenic enlargement far commonly seen in Tropical countries particularly areas with high Malaria prevalence (1).

As per the western articles, Splenomegaly accounts for 0.3% of Hospital admission (2).The underlying cause and prevalence are co-related with the geographic location and the diseases present in that location.(3).As quoted by Osler in 1908,Splenomegaly is secondary to underlying disease. It presents with various clinical features that are common to various disease (4).

A thorough systematic approach is needed to evaluate various causes of the splenic enlargement. Retrospective study by O Reiley shows haematological causes followed by Infection, inflammatory and primary splenic disorder as the cause of splenomegaly (2).
This study was done to observe the Clinical symptoms, signs and laboratory methods used while evaluating the underlying causes of splenomegaly.

MATERIALS AND METHODS:

This is a cross sectional observational study done in cases admitted with Splenomegaly at Dr Rml Hospital inpatient of department of Medicine over a period of 9 months.

All patients ≥ 21 years with palpable splenomegaly confirmed by ultra sonogram were included in the study (maximum length of 13cm is the limit) [5]

Cases less than 21 years were excluded from the study.
Grading of splenomegaly was based on Hackett's Classification.
Grade 0 – Spleen not palpable even on deep inspiration
Grade 1- Spleen palpable below costal margin usually in deep inspiration

Grade 2 – Spleen palpable, but not beyond a horizontal line halfway between the costal margin and umbilicus, measured by a line dropped vertically from left nipple

Grade 3 – Spleen palpable more than halfway to the umbilicus but not below a line horizontally running through it

Grade 4 – Spleen palpable below the umbilicus but not below a horizontal line halfway between umbilicus and pubic symphysis

Grade 5 – Spleen extending lower than grade 4
Grade 1&2- Mild splenomegaly
Grade 3 – Moderate splenomegaly
Grade 4 & 5-Massive Splenomegaly

The study group consists of 156 cases. A thorough clinical assessment done with detailed history, physical examination. Relevant investigation done as per the clinical judgement and the need for determining the cause of splenomegaly. The following investigations done :CBC, peripheral smear, liver function test, renal function test, bacterial culture, PS for Malaria, serological tests for HIV and Viral markers of Hepatitis, widal, Dengue antibody test, tests for haemolysis indicator, bone marrow aspiration were done.

RESULTS:

The study observed that out of 156 cases, 103(66.02%) were male and 53 (33.97%) female. Also the middle age group 41-50 were highest 57(36.53%).

In clinical features group 136 (87.17%) cases were presented with fatigue, followed by nausea in 102 (65.38%) cases, pallor in 102(65.38%)cases, fever in 96 (61.53%),icterus in 94 (60.25%) cases, abdominal pain in 84 (53.84%),ascites in 69 (44.23%) and edema in 66 (42.30%) cases.

Grades of splenomegaly detected were as follows; grade 3 - 53(33.97%), grade 2-44 (28.20%),grade 1-36 (23.07%),grade 4-16 (10.25%),grade 5-7(4.48%)cases.

The study observed following as the etiological causes of splenomegaly: Infection 79 (50.64%), Congestive causes 51 (32.69%), haematological in 22 (14.20%), haematological malignancy in 4 (2.56%) cases.

These are represented in Tables in the following page

Table no 1.Age and Gender distribution

Age group in years	Male	Female	Total
21-30	24(68.57%)	11(31.42%)	35(22.43%)
31-40	26(61.90%)	16(38.09%)	42(26.92%)
41-50	38(66.66%)	19(33.33%)	57(36.53%)
51-60	8(66.66%)	4(33.33%)	12(7.69%)
>60	7(70%)	3(30%)	10(6.41%)
Total	103(66.02%)	53(33.97%)	156

Table no 2.Clinical symptoms

S.NO	Symptoms	Number of cases
1	Fatigue	136 (87.17%)
2	Jaundice	102 (65.38%)
3	Nausea	102 (65.38%)
4	Fever	96 (61.53%)
5	Abdominal Pain	84 (53.84%)
6	DOE	84 (53.84%)
7	Abdominal Heaviness	79 (50.64%)
8	Lower limb Swelling	74 (47.43%)
9	Abdominal Swelling	69 (44.23%)
10	Rashes over the Body	68 (43.58%)
11	Bleeding from any site	64 (41.02%)
12	Malena	60 (38.46%)

Table no 3. Clinical Signs

S.NO	Signs	Number of cases
1	Pallor	102 (65.38%)
2	Icterus	94 (60.25%)
3	Ascites	69 (44.23%)
4	Edema	66 (42.30%)
5	Pleural Effusion	34 (21.79%)
6	Lymph Nodes	11 (7.05%)

Table no 4.Grades of Splenomegaly

Grades	Number of cases
1	36(23.07%)
2	44(28.20%)
3	53(33.97%)
4	16(10.25%)
5	7(4.48%)

Table no 5.Etiologies of Splenomegaly

Group	Etiology	Number of Cases	Total
Infections	Malaria	29 (18.58%)	79 (50.64%)
	Typhoid	24 (15.38%)	
	Tropical Splenomegaly	13 (8.53%)	
	Disseminated Tuberculosis	9 (5.78%)	
	HIV	4 (2.56%)	
Congestive causes	Cirrhosis of Liver with Portal Hypertension	36 (23.07%)	51 (32.69%)
	Portal vein Thrombosis	7 (4.48%)	
	Budd Chiari Syndrome	4 (2.56%)	
Haematological causes	Iron Deficiency Anaemia	16 (1025%)	22 (14.10%)
	Dimorphic Anaemia	6 (3.84%)	
Haematological malignancy	Chronic Myeloid Leukaemia	3 (1.92%)	4 (2.56%)
	Chronic Lymphocytic Leukaemia	1 (0.64%)	

DISCUSSION:

Spleen is an important organ with haematopoiesis and Immuno surveillance. The presence of splenomegaly suggests an underlying medical disorder that needs to be evaluated.

The study shows middle age group has the maximum splenomegaly followed by 21-40 year age group and also there is a male preponderance. Similar results were seen in a study conducted by Geeta et all (6, 7).The increase in infectious diseases and alcohol consumption are mainly attributed to this preponderance.

In this study majority of the cases presents with fatigue as the commonest complaint followed by Jaundice, Nausea, fever, abdominal pain, Dyspnoea on exertion, abdominal heaviness, lower limb swelling, bleeding and Malena. Almost similar complaints were observed in the study conducted by Varsha et all (8).

Most of the cases presented with grade 3 splenomegaly followed by grade 2.In the study conducted at Bombay Hospital showed splenomegaly grade 2 as the commonest. Most of the grade 3 splenomegaly observed in our study were belonged to the Cirrhosis of liver with portal hypertension and Infectious causes.

Infectious diseases that are prevalent in India such as Malaria, Typhoid, Disseminated Tuberculosis, HIV and Tropical Splenomegaly are the commonest causes of splenomegaly. These have accounted for 79 (50.64%) cases. These cases were also associated with mild to moderate splenomegaly. In the Tropical countries the infectious diseases are still the commonest causes for splenomegaly and associated clinical features. Similar observations were found in the study by Geeta et all and Varsha et all.

Splenomegaly from congestion as a cause is observed in 51(32.69%) cases. The rise in the consumption of alcohol and its sequalae cirrhosis of liver is also on the increasing trend specially in the developing countries (9) splenomegaly of moderate to severe grade is the result of portal congestion caused by cirrhosis of liver (10).

Haematological causes such as Iron deficiency Anaemia and Dimorphic anaemia were observed in 22 (14.10%)cases followed by haematological malignancy in 4 cases.Splenomegaly of grade 1 and 2 were observed in the Sideropenic anaemia a combination of iron deficiency, dimorphic anaemia and anaemia of chronic disease(11).

Moderate to severe degree of splenomegaly is a consistent finding in 54% cases of haematological malignancy (12).

CONCLUSION:

Presence of splenomegaly suggests an underlying medical condition. This needs proper evaluation based on the geographical location and the diseases prevalent. Etiologically splenomegaly present commonly in Infections, Congestive causes, Haematological causes including malignancy.

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