

Study of various aetiological factors and clinical patterns of anaemia

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Abstract

Present study was undertaken at general hospital, Solapur. To study various aetiological factors and clinical patterns of anaemia's. The study included 100 consecutive patients (50 males, 50 females), with age ranging from 16 to 65 years. Patients having haemoglobin less than 9 gram % were studied. Each patient was subjected to detail history, physical examinations and following investigations; haemoglobin %, peripheral smear examination, ESR, urinalysis, bone marrow exam, serum iron, iron binding capacity, ECG and X-ray chest. Symptoms observed were tiredness in 100 patients, giddiness in 69 patients, swelling over legs and face in 43, breathlessness in 19, palpitation in 15 patients. Bone marrow aspiration showed predominantly megaloblastic in 24 patients, normal in 65 patients. In 5 patients bone marrow tissue was not seen. 100 patients of anaemia were evaluated clinically as well as by laboratory methods. Etiological factors leading to anaemia were analysed in these patients. Types of anaemia in patients were 1. Iron deficiency 44, dimorphic 20, megaloblastic 19, normocytic in 7 and aplastic anaemia in 4 cases. 2. Aetiological breakup was nutritional deficiency 33, chronic blood loss 29, worm infestation 20, chronic infection 14, other cause in 19 patients.

Key Words: anaemia, aetiological factors.

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Since ages the problem of anaemia is existing in our country. If anaemia remains chronic and severe leads to complications such as cardiac failure, ischaemic heart disease and neuropathy etc. Causes of anaemia are multiple, the major one being deficiency states as well as chronic diseases. Present study was undertaken to know various etiological factors and clinical pattern of anaemia in a tertiary care centre.

INTRODUCTION

Symptoms observed were tiredness in 100 patients, giddiness in 69 patients, swelling over legs and face in 43, breathlessness in 19, palpitation in 15 patients. Bone marrow aspiration showed predominantly megaloblastic in 24 patients, normal in 65 patients. In 5 patients bone marrow tissue was not seen.

Types of anaemia in patients were

1. Iron deficiency 44, dimorphic 20, megaloblastic 19, normocytic in 7 and aplastic anaemia in 4 cases.

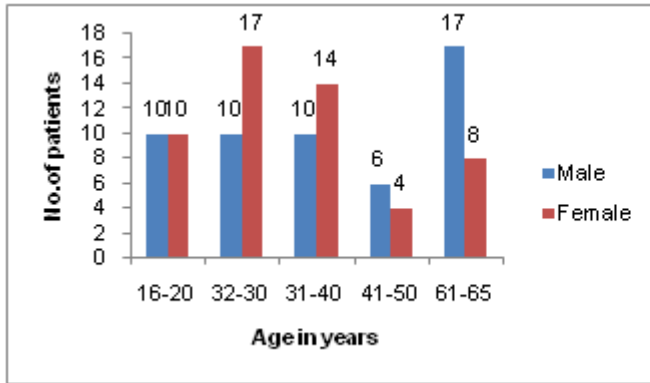
MATERIAL AND METHODS

The study included 100 consecutive patients of anaemia with Hb less than 9 gm% admitted in medical wards of a tertiary care hospital, attached to Dr.V.M. Govt medical college, Solapur. 50 males and 50 females of age group 15 years to 65 years were studied. Detailed history was recorded and a through clinical exam was done and patients were subjected to following investigations-Hb%, peripheral blood smear, serum iron level, iron binding capacity, reticulocyte count, stool and urine exam, bone marrow exam, X-ray chest and ECG.

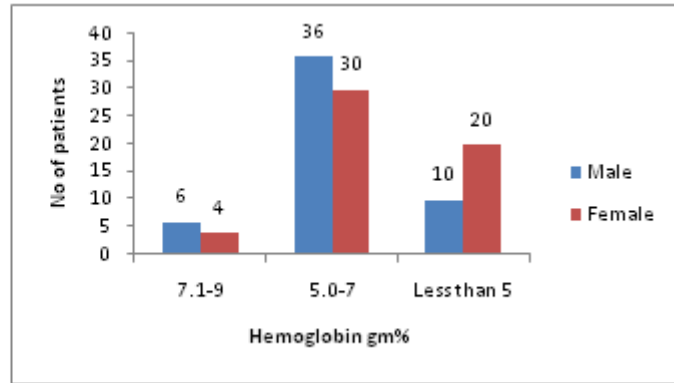
Other investigations were done as and when required and relevant to the case.

RESULTS

Relation of age with number of patients.



Graph 1: Breakup of patients according to age



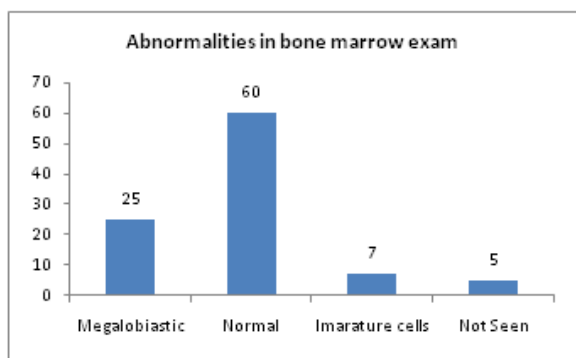
Graph 2: Shows Hb % in patients

Table 1: Table showing percentage of various symptoms in patients

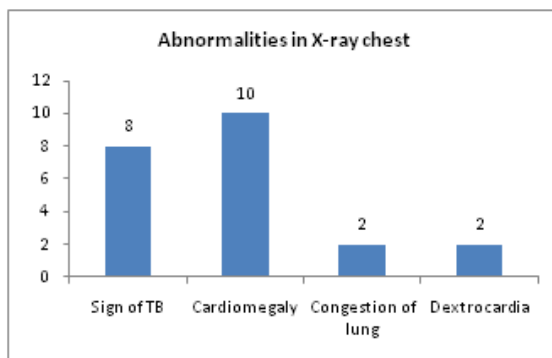
Symptom	No. of patients
1. Blood Loss	
PR bleeding	11
PV bleeding-Menorrhagia	8
other causes	3
Haemoptysis	4
Haematemesis	2
Bleeding from peptic ulcer	3
2. Allimentary symptoms	
Pain in abdomen	17
Previous abdominal operation	1
H/o passing worms	16
Diarrhoea	6
3. Cardiovascular symptoms	
Chest pain	2
Breathlessness	19
Tiredness, lassitude	100
Palpitation	15
Giddiness	69
Swelling over legs/face	43
4. Urinary Symptoms	4
5. Neurological symptoms	
Parasthesia	10
Tingling numbness	21
Difficulty in walking	1
6. Symptoms of Respiratory system	
Cough	6
Haemoptysis	4
7. General: fever	29
Weakness and easy fatiguability	100

Table 2: Showing various sign of patients

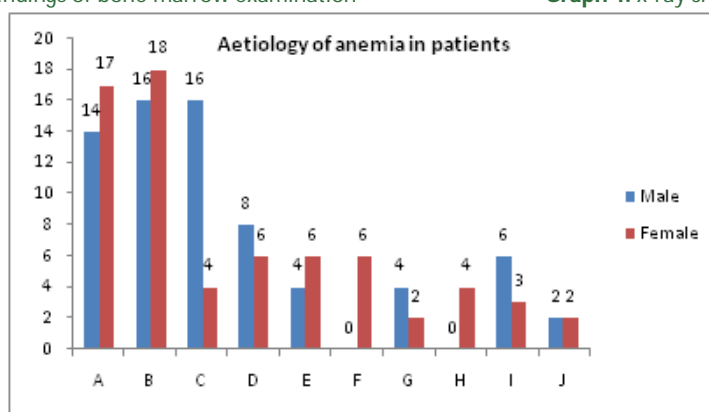
General Signs	No. of patients
Skin changes	13
Nails-Koilonychia	26
Platynychia	62
Conjunctiva Bittot.s spot	44
Pallor	100
Angular stomatitis	57
Tongue	
-Redness	31
-Unceration	38
-Atrophy of papillae	59
Increased temperature	29
Oedema over legs	45
Puffiness over face	29
Raised JVP	29
Systemic Signs	No. of patients
Abdomen	
-Abdomen Hepatomegaly	39
-Splenomegaly	42
-Hepatosplenomegaly	24
-S/o free fluid	5
Respiratory system abnormalities	8
CVS	
-Haemic murmer	59
-Tachycardia	98
-Gallop	6
-First Heart sound loud	5
CNS	
-Sign of neuropathy	2
-Sensory system impairment	1
-Slow relaxation of muscles	2
Bony tenderness	10
Piles	14
Carcinoma of cervix	1



Graph 3: Showing findings of bone marrow examination



Graph 4: x-ray chest findings



Graph 5: Aetiology of anaemia in patients

A: Chronic Blood Loss; B: Nutritional Deficiency; C: Worm Infestations; D: Chronic Infections; E: Drug consumption; F: Myxoedema; G: Chronic renal failure; H: Malabsorption; I: Leukemias; J: Liver Disease.

Table 3: Showing peripheral blood smear in patients

Finding on peripheral smear	No. of patients
Microcytic Hypochromic	56
Purely Macrocytic	1
Diamorphic	35
Positive malarial parasite	4
Normocytic	9
Presence of immature cell	8

Table 4: Abnormalities found in ECG

Abnormalities in ECG	No. of patients
Sinus Tachycardia	98
T wave inversion	3
ST. Segment depression	1
ST. Segment straight	1
Left ventricular Hypertrophy	3
Low voltage	3
Dextrocardia	1

Table 5: Showing types of anaemia in patients

Type of anemia	Males	Females	Total
Iron deficiency anaemia	14	30	44
Diamorphic anaemia	11	9	20
Megaloblastic anaemia	15	4	19
Aplastic anaemia	2	2	4
Anaemia with leukemia	6	2	8
Normocytic anaemia	4	3	7

DISCUSSION

In our study we had highest incidence of iron deficiency anaemia i.e. 44% and 2nd in the rank was dimorphic anaemia. Iron deficiency anaemia is more common in females than in males, 30% in females and 14 % males. The cause of this is menstrual blood loss, pregnancy and lactation. Cause of iron deficiency anaemia in males is chronic blood loss from haemorrhoids, or peptic ulcers or from other sites. After the reproductive age these causes also contribute to iron deficiency anaemia in females. The nutritional deficiency of iron is common cause in males and females. Megaloblastic anaemia was seen in 19% in our study. In study of John Fry hypochromic anaemia was seen two males and 16 females without underlying cause and 4 males and 14 females with underlying disease – total 35 cases. Hyperchromic anaemia was seen in 1 male and 3 female patients having pernicious anaemia and 1 male, 1 female patient having haemolytic anaemia – total 6 patients. In this study hypochromic anaemia was most common morphology with etiology of nutritional deficiency in 92% followed by underlying disease as etiology. Aundry Dawson reported study of patients of anaemia where 78 patients out of 133 had nutritional deficiency as cause of anaemia followed by chronic blood loss and malignancies. Hamid Al Mandhiry *et al* who studied patients of anaemia who reported almost all having breathlessness after exertion. In our study 19 patients presented with breathlessness 15 had palpitation and 2 patients got chest pain as a predominant symptom. Present study correlates well with both the above studies as we got hypochromic RBC morphology in 90% patients and dimorphic in 35% patients. Etiology of anaemia was found to be nutritional deficiency in 63% patients followed by chronic blood loss and underlying infections.

CONCLUSION

In present study of the 100 patients commonest aetiology of anaemia was found to be nutritional deficiencies-33%. The next common cause was chronic blood loss – 29%. There were 14 patients having underlying infections. 8 patients had underlying malignancies. Chronic blood loss and underlying infections are more in our study as compared to the previous studies. Because the patients were never investigated and treated in time which led to

the anaemia and effects on health. Symptoms of the patients should be taken seriously at any age and paid attention. Blood loss and underlying infections must be treated at the earliest so that we can prevent the anaemia and its further complications. If physician detects anaemia with its cause earlier and gives treatment in time one can cure it completely and prevent future complications.

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