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Study of Clinical Profile of Patients with Anemia Admitted in A Tertiary Care Center of Mohali

Rajesh Chauhan, Neha Agarwal, NavdeepGarg
(Department of Medicine, Grecian Super Speciality Hospital, India)
Corresponding author:*Neha Agarwal*

Abstract*: Hematologyis a branch of medicinerelated to differentcategories of clinical conditions and diseasesrelated to components of bloodwhichmayberedbloodcells or white bloodcells or platelets .Anemiais the mostcommonly condition found in hematological diseaseswhichisdefined as decrease in redbloodcells or hemoglobin due to variable causes.*

Keywords –*Red blood cells (RBCs), Hemoglobin (Hb), peripheral blood smear (PBS)*

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I. Introduction

Anemia itself is not a disease but a clinical feature of some other underlying problems leading to various clinical consequences.it is defined as decrease in RBCs or hemoglobin[1].it can be classified by two major approaches which is either 'kinetic' approach involving evaluation of production and destruction of RBCs and another is 'morphological' approach where anemia is classified on the basis of size of RBCs (microcytic , normocytic , macrocytic).[2][3].Out of all anemia, most common is Iron deficiency caused usually by nutritional deficiency followed by poor absorption or increase loss of blood[4][5]. Megaloblasticanemia is due to deficiency of VitaminB12 or folic acid or both and most commonly caused by nutritional deficiency. In this study we will study about clinical profile of patients with anemia admitted in tertiary care center of Mohali.

II. Methods

2.1. Sample and data collection

200 consecutive patients with Hb<10 gm% were enrolled from OPD/IPD of Grecian Super Specialty Hospital between June2018 to December 2018.A database was created, and it consisted of the following: (a) Name, age, gender (b) PBS(c) Laboratory parameters.

2.2 Case inclusion criteria

Patients with Hb<10gm% were enrolled in study after informed consent.

2.3 Study procedure

All the data of patients with Hb< 10gm% collected and tabulated. Information regarding demography(age,gender, socio – economic status),PBS and laboratory parameters was collected and recorded in case record form and then analyzed. Detailed history and examination was done and complete blood count, reticulocyte count and PBS was done in all patients while some specific investigations (Table 1) were done in selected patients.

III. Results

Among 200 patients enrolled in our study 130 were males and 70 were females. Commonest age group was 30 - 59 yrs. The average Hb was 8gm% and lowest was 3.6gm%.PBS showed microcytic picture in 100 cases,macrocytic in 40 patients and normocytic in 60 cases. Blood loss and Iron deficiency was the most common cause of anemia in our study(120 patients).Blood loss due to variceal bleeding was seen in 30 patients(15%) and peptic ulcer in 40 patients(20%) and hookworm infestation in 10 cases(5%).Nutritional deficiency or anemia of chronic disease was present in 40 patients(20%). Among 40 cases with macrocytic anemia in PBS, 20 had Megaloblastic changes in bone marrow aspiration. Out of 20 patients 8 had vitamin B12 and 5 had folic acid deficiency. Remaining 7 patients had associated chronic liver disease and hypothyroidism. Out of 60 normocytic anemia patients 10 had hemolytic anemia, 20 had aplastic anemiaand rest 20 had anemia of chronic disease.

IV. Figures and Tables

Table 1: Total investigations sent during the study

S. No.	Investigations done	Applied to
1	Complete blood count	All patients
2	Reticulocyte count	All patients
3	Peripheral blood smear	All patients
4	Osmotic fragility test	Selected patients
5	Hb Electrophoresis	Selected patients
6	Coombs test	Selected patients
7	Vitamin B12 assay	Selected patients
8	Folate assay	Selected patients
9	Iron profile	Selected patients
10	Flow cytometry	Selected patients
11	Stool examination	Selected patients
12	Upper GI endoscopy	Selected patients
13	Colonoscopy	Selected patients
14	Bone marrow examination	Selected patients
15	Chest X-ray	Selected patients
16	Liver function tests	Selected patients
17	Urine routine	Selected patients
18	USG Abdomen	Selected patients
19	Renal function tests	Selected patients

Table 2:Age distribution(in years) of patients with Anemia

S. No.	*Age group*	No. of cases
1	<20	16
2	20-29	30
3	30-39	40
4	40-49	40
5	50-59	40
6	60-69	15
7	≥70	19
Total		**200**

Table 3: Peripheral Blood smear findings

Smear	***N***
Microcytic	*100*
Normocytic	*60*
Macrocytic	*40*
Total	***200***

Table 4: Causes of Anemia

Cause	***N***
Variceal Bleeding	*30*
Peptic ulcer bleeding	*40*
Hookworm infection	*10*
Nutritional iron deficiency	*40*
Vitamin b12 deficiency	*8*
Folic acid deficiency	*5*
Chronic liver disease/Hypothyroidism	*7*
Hemolytic anemia	*10*
Aplastic anemia	*20*
Anemia of chronic disease	*20*
Others	*10*
Total	***200***

V. Discussion

In our studyMales were affected more than females, more likely due to higher alcohol consumption and the commonest age group affected was 30-59 years, because this age group is also more affected by Alcoholic liver disease.

The above findings were in accordance with other similar studies.

VI. Conclusion

Megaloblastic anemia and aplastic anemia are less common than iron deficiency anemia which is among the leading cause of anemia in India. In-hospital mortality due to anemia alone is lower in tertiary care centers as seen in our study.

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