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CLINICAL PROFILE OF ANEMIA IN A TERTIARY CARE CENTER

Medicine

Kiran Nandedkar* Assist Professor, Dept of Medicine, GMC Aurangabad *Corresponding Author

Sadhana Shahi Assist Professor, Govt. college of Pharmacy , Auranagabad

Swapneel Labade Doctor of Pharmacy, Govt. college of Pharmacy , Auranagabad

ABSTRACT

India is a second most populous country in the world which has been severely affected by global anemic epidemic.

Aim- To study clinical profile of anemia and to assess the clinical presentation and severity of anemia.

Design- Observational Study.

Result- According to our study, majority of anemic cases were seen in 30-39 years of age group(22%). Most patients were females(67%) and high prevalence of anemia was found in patients of Hindu religion (62%).

Conclusion- Improvement in literacy, health education, prevention of early marriages and teenage pregnancies may help to reduce the prevalence of anemia.

KEYWORDS

Anemia, Pallor, Vegetarian, Hindu Religion.

INTRODUCTION

Anaemia is a reduction in red blood cell (RBC) mass[1]. It often is described as a decrease in the number of RBCs per microliter (μL) or as a decrease in the haemoglobin (Hb) concentration in blood to a level below the normal physiologic requirement for adequate tissue oxygenation[2]. Signs and symptoms of anaemia vary with the degree of RBC reduction as well as with the time interval during which it develops. As a result, perfusion to non-vital tissues (e.g., skin, mucous membranes, and extremities) is decreased to sustain tissue perfusion of vital organs (e.g., brain, heart, kidneys)[3].

According to the WHO, as many as four to five billion people (66%–80% of the world's population) may be iron deficient, and two billion people (30% of the world's population) are anaemic[4]. There is clear evidence to show anaemia prevalence is rapidly increasing, especially in rural India[5]. Accordingly, anaemia related complications are also on rise and contribute significantly to overall morbidity and mortality, while the low levels of education and poor awareness of the disease in the country are enhancing its impact on health of the population[6]. Thus, it is the need of hour to analyse clinical profile of anaemia and its epidemic to reduce its prevalence.

OBJECTIVE:

To study the clinical profile of anaemia.

MATERIALS AND METHODS:

Present study was carried out at medicine department of our institute with prior approval of institutional ethics committee.

Study Design: cross-sectional observational study.

Inclusion criteria:

All the patients with anaemia attending medicine department of our hospital during the period of December 2016 to March 2017 were included in the study.

Exclusion criteria:

All the patients having anaemia due to pregnancy and chronic diseases.

Clinical evaluation and procedures:

All the patients attending OPD and IPD, particularly the medicine department of our. Hospital were evaluated for the eligibility to be enrolled into the study. Consent was taken for eligible candidates and participants were enrolled in the present study.

Demographic data like name, age, sex, religion, occupation, personal history like diet, addiction were obtained by interviewing the patients. Proper history of each of the patient was noted on predesigned and pretested proforma and they underwent thorough physical examination including BMI and necessary investigations were carried out.

RESULTS:

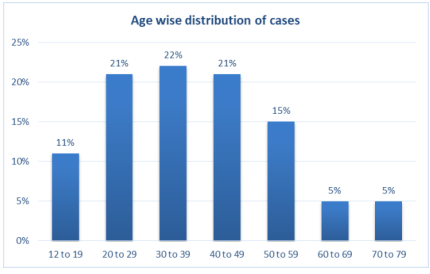

Chart 1: Age wise distribution of cases.

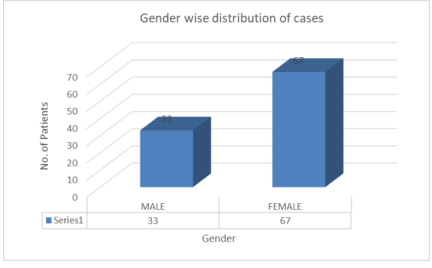

CHART 2: Gender wise Distribution of Cases

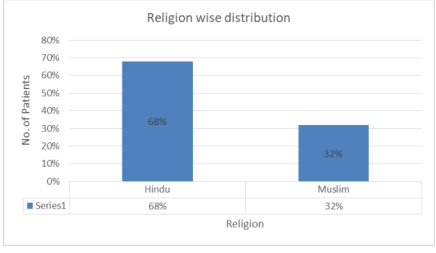

Chart 3: Religion wise distribution of cases.

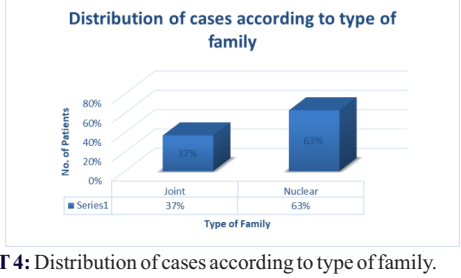

CHART 4: Distribution of cases according to type of family.

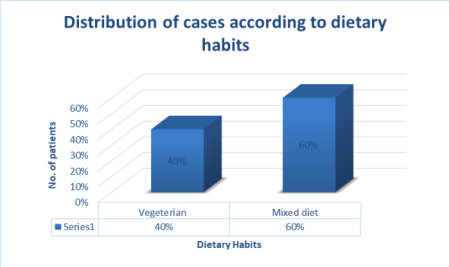

CHART 5: Distribution of cases according to dietary habits.

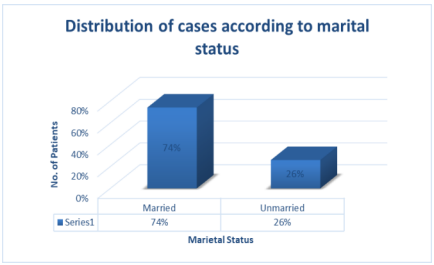

CHART 6: Distribution of cases according to marital status.

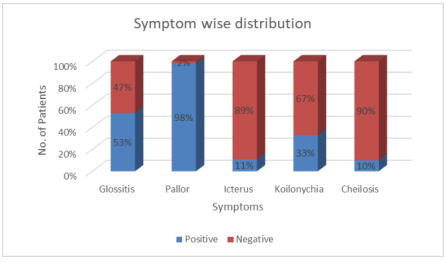

CHART 7: Symptom wise distribution of cases.

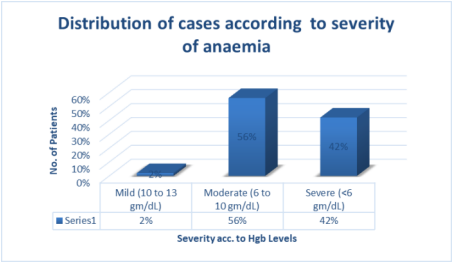

CHART 8: Distribution of cases according to severity of anaemia.

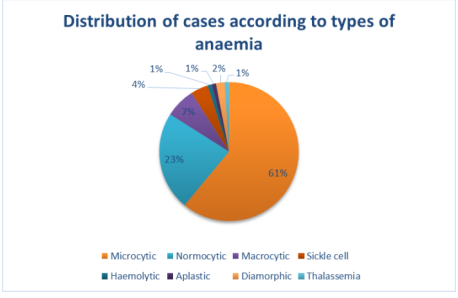

CHART 9: Distribution of cases according to types of anaemia.

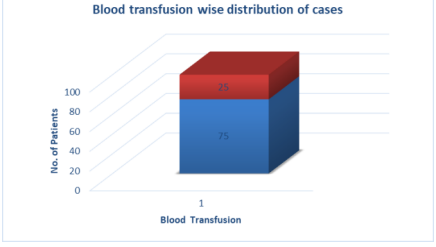

Chart 10: Blood transfusion wise distribution of cases

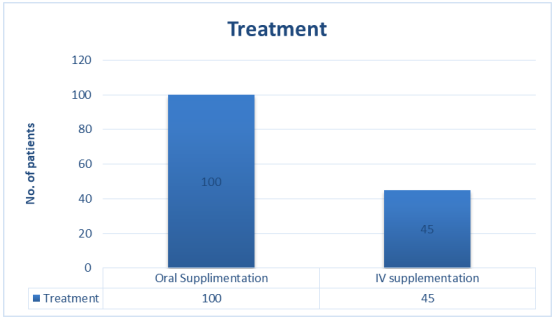

CHART 11: Distribution of patients according to IV and Oral supplementation.

Summary:

- Out of 100 anaemic patients, maximum 64% people belonged to 20-49 years age group and least number of patients (5% each) belonged to 60-69 and 70-79 years age group.
- In our study, we observed that, out of 100 anaemic patients 33 were male patients and 67 were female patients.
- In this study, out of 100 anaemic patients, we observed that 68 were Hindu and 32 were Muslim.
- We found that out of 100 anaemic patients, 37 patients belonged to joint family and 63 were from nuclear family.
- Among 100 patients, 40 were pure vegetarian and 60 were having mixed diet.
- In the observational study conducted on 100 anaemic patient, we have found that 74 were married and 26 were unmarried.
- In this observational study conducted on 100 anaemic patient, 53 presented with glossitis, 98 presented with pallor, 11 had icterus, 33 had koilonychia, and 90 had cheilosis.
- According to this study conducted on 100 anaemic patients, 2 patients were having mild anaemia, 56 patients had moderate anaemia, and 42 patients had severe anaemia.
- The observational study conducted in 100 anaemic patients revealed that 61 patients had microcytic anaemia, 23 patients had normocytic anaemia, 7 patients had macrocytic anaemia, 4 patients had sickle cell anaemia, 2 patients had dimorphic anaemia, 1 patient had haemolytic anaemia, 1 patient had aplastic anaemia and 1 patient had thalassemia.
- In our observational study conducted on 100 anaemic patients, 75% patients were transfused with blood and 25% were on medication therapy alone.
- In our observation study conducted on 100 anaemic patients, it is found that total 100% were on oral supplementation and 45% were on IV supplementation.

DISCUSSION:

Of the enrolled patients in our study maximum patients were in the age group of 30-39 yrs (22%) because this age group is mostly affected by alcoholism which results in malnourishment, a major risk factor associated with anaemia. Previous studies by K S Lamasal et al. in 2010[7] and Hiren P Pandya, Asit Patel in 2016[8] concluded that the highest incidence was in the subjects of 40 to 49 years which was different from our study. The present study for anaemia associated with gender, as observed in 100 anaemic patients resulted in 33 male patients and 67 female patients. The higher rate of anaemia in women could be accounted to exacerbation of their inherently greater risk of iron loss attendant to their biology, i.e., pregnancy, child birth and breast feeding. Similar high female preponderance was found in study conducted by Ather Akhtar Pasha, Suhail Bin Ahmed[9].

In our study, 68% patients were Hindus and 32% were Muslims. The diet of Hindu population is mostly vegetarian comprising of low level of essential Vitamins and iron as compared to non-vegetarian diet which could have accounted for such findings. According to observation study conducted on 100 anaemic patients, 37% patient belonged to joint family and 63% were from nuclear family. The higher rate of anaemia observed in nuclear family is due to poor socio-economic conditions of the prevailing society which may be one of the reason.

In our study of 100 patients, we found that 40% patients were pure vegetarian and 60% patients followed mixed diet, which was contradictory to study by Hiren P Pandya, Asit Patel 2016, who

concluded that 80% patients were lacto-vegetarian and 20% were following mixed diet[8].

The present study also concluded that 74% were married and 26% were unmarried. Such finding may be associated with stress, unhealthy life style and inadequate diet pre and post pregnancy. In our study, out of 100 patients, 98%, 53%, 33%, 11% and 10% patients had pallor, glossitis, koilonychias, icterus and cheilosis, respectively. Thus, pallor and glossitis were observed as major clinical symptoms in the present study. Hiren P Pandya, Asit Patel 2016 showed that Pallor, being the hallmark of clinical signs (100%), was followed by glossitis (20%), neuropathy (10%), and cardiac failure (8%), which was not similar with our study[8].

Of the enrolled patients in present study 2% patients were having mild anaemia, 52% patients were having moderate anaemia and 42% patients were having severe anaemia. Thus, the higher incidence of severe anaemia was probably due to lack of awareness. Similarly, the study by K. G. Prakash, Devendrappa. K. R, Madhukumar. M. H et al. 2015 concluded that almost 42% patients had severe degree of anaemia i.e., (Hb <6 g %), while 40% of patients had moderate anaemia (Hb 6-9 g %), and remaining 18% of patients had mild anaemia (Hb > 9%)[10].

The study conducted on 100 anaemic patients, 61% had microcytic, 23% had normocytic, 7% had macrocytic, 4% had sickle cell anaemia, 2% had dimorphic anaemia, 1% had haemolytic anaemia and 1 % had thalassemia. The increased incidence of microcytic anaemia may be associated with increased blood loss in female patients and malnourishment.

Similarly, K S Lamasal et al. 2010 peripheral blood smear showed hypochromic picture in 140, macrocytic picture in 26 and the morphology was normocytic normochromic in 71 cases[7]. Among the 26 cases having macrocytic anaemia, 11 had megaloblastic changes in bone marrow examination and 6 had Vitamin B12 deficiency and 5 had folate deficiency. Among the 71 patients having normocytic normochromic blood picture, 8 had haemolytic anaemia, 11 had aplastic anaemia. The results of the study revealed no similarity as compared to the literature.

The study conducted on 100 anaemic patients, 20% patient were on IV iron supplementation and 100% patient were on oral iron supplementation. The IV supplementation was initiated after inadequate response to oral supplementation for better management of anaemia. In the present study conducted on 100 anaemic patients, 75 were transfused with blood, and remaining 25 patients were on medication only.

Similarly, K S Lamasai et al. April 2010 findings revealed that 84 patients were subjected to blood transfusion which was not similar to the present study[7].

CONCLUSION:

- As chronic blood loss and iron deficiency are among the leading causes of anaemia, microcytic picture was the predominant picture in peripheral blood smear. On the other hand, megaloblastic anaemia, aplastic anaemia and thalassemia are less common than iron deficiency anaemia. Incidence of microcytic anaemia was highest among the subjects aged between 30-39 yrs. Pallor and icterus were the most common clinical signs. About 94% of the patients presented with moderate to severe anaemia. Females were most affected by anaemia than males. In hospital, mortality due to anaemia alone is lower in tertiary care centre.
- Unfavourable socio-demographic factors like female illiteracy, poverty, early marriages, uncontrolled fertility, gender bias, non-availability or poor accessibility to health facilities are some of the reasons for high prevalence of anaemia in females.
- The health care system at all levels should not miss any health related opportunities during important years of adolescence, before marriage and during child bearing and rearing.
- Strategic shift in the programme to ensure supply of iron, folic acid tablets to adolescent girls and boys, food fortification along with correction of other nutritional deficiencies and timely intervention for reducing the burden of malaria, worm infestations, and other infectious diseases will go a long way in reducing the burden of this totally preventable disease.
- Improvement in literacy, health education, prevention of early marriages and teenage pregnancies, strengthening the peripheral health care delivery system, improving contraceptive use and provision of safe abortion facilities to control unregulated fertility will reduce the prevalence of anaemia.

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