

International Journal of Scientific Research and Reviews

Pattern of Anemia in Elderly Age Group

S. Amarneel and N. Sheth

Department of pathology, Government Medical College , Bhavnagar -364001,Gujrat, INDIA.

Email id : shwetadbga@gmail.com

ABSTRACT:

To study hematological profile and morphological pattern of anemia in patient ageing 60 to 90 year. Total 80 patients were included who attended clinical OPD of Sir T Hospital bhavnagar. Out of 80 patient 42 (52.5%) were found to be anemic. Proportion of anemia female is 53.5% and males is 50.0%. Pattern of anemia was based on RBC indices and correlated with peripheral smear. Normocytic anemia was the commonest pattern 57.13%. There is a need to diagnose anemia and confirm its pattern in elderly age group to improve overall outcome.

Keywords: Anemia Elderly, Proportion, Pattern.

KEY WORDS: Pattern of anemia in elderly age group.

***Corresponding Author:**

S. Amarneel, N. Sheth

Department of pathology
Government Medical College , Bhavnagar -364001,Gujrat,INDIA.
Corresponding Email id : shwetadbga@gmail.com

INTRODUCTION

Anemia is common in elderly age group and is easily overlooked since symptoms such as fatigue, weakness, shortness of breath may be attributed to the ageing process itself but decline in hematological parameter with age is not necessarily as a result of normal ageing.^{3,7} In elderly population anemia has more severe complication than younger population.³ Therefore anemia should never be accepted as consequence of normal ageing process and should be thoroughly investigated.

Using WHO criteria for diagnosis of anemia the prevalence was found to range from 8 to 44 percent, with highest prevalence in men ageing 85 and above⁴. As reported in Indian cross sectional studies prevalence varies from 6% to 30% in male and 10% to 20% in female.⁶ Many studies indicate that as the age advances prevalence of anemia also increases and it is more common in elderly female⁵. Despite of high prevalence of anemia in elderly only a few studies have focused on affect of anemia on the overall outcome of elderly patient.

MATERIAL AND METHOD

This study was a hospital based observational study including total 80 patient from 60 to 90 years age group presenting at clinical OPD at Sir T Hospital. Both male and female were included in this study. A detailed history, complete general and physical examination was done. Detailed laboratory studies hemoglobin and diagnostic tests were done to fix the pattern of anemia. Diagnosis of anemia were based on WHO criteria (hemoglobin <13g/dl for male and <12 g/dl female)[4]. Anemia pattern was established by RBC indices and further confirmed by peripheral smear. Normocytic anemia was defined when MCV was between 80 to 100 fl, microcytic anemia when MCV is below 80 fl and macrocytic anemia when MCV above 100 fl. Dimorphic anemia was diagnosed when RDW is more than normal range (11-15%) and confirmed by peripheral smear. Patient having malignancy or any blood related severe disorder were not included in this study.

RESULTS

Present study included patients ageing from 60 to 90 years. Mean age was 68.2 years. Maximum number of patients were lying in 60 to 65 year age group. Out of 80 cases selected 42 were found to be anemic i.e. 52.5%. 56 were female and 24 were male patients of total. 30 out of 56 female patients were anemic which constitute 53.5% and 12 out of 24 male patients were anemic i.e. 50.0%.

Table 1 Table for age and sex distribution of all patient included in study

Age group	Female (total – 56)	Male (total – 24)
60 – 65 years	24 (42.85%)	8 (33.33%)
66 – 70 years	12 (21.42%)	5 (20.83%)
71 – 75 years	10 (17.85%)	3 (12.5%)
76 – 80 years	5 (8.92%)	4 (16.66%)
81 – 85 years	3 (5.35%)	3 (12.5%)
86 – 90 years	2 (3.57%)	1 (4.16%)

Table 2 Table for age and sex distribution of anemic patient.

Age group	Female	Male
60 – 65 years	10 of 24 (41.6%)	3 of 8 (37.5%)
66 – 70 years	4 of 12 (33.33%)	2 of 5 (40%)
71 – 75 years	8 of 10 (80%)	2 of 3 (66.6%)
76 – 80 years	3 of 5 (60%)	2 of 4 (50%)
81 – 85 years	3 of 3 (100%)	2 of 3(66.6%)
86 – 90 years	2 of 2 (100%)	1 of 1 (100%)

Pattern of anemia was established by RBC indices and confirmed by peripheral smear. Present study highlighted that normocytic was the commonest type of anemia among elderly constituting 57.13% of total anemic patient including both sexes. Microcytic hypochromic followed it with 19.04% than macrocytic hypochromic 9.52% and dimorphic anemia 14.24%.

Table 3 Table for distribution of pattern of anemia

Pattern of anemia	Female (total – 30)	Male (total – 12)	Total – 42
Normocytic normochromic	10 (33.3%)	5 (41.6%)	35.71%
Normocytic hypochromic	6 (20.0%)	3 (25%)	21.42%
Microcytic hypochromic	6 (20.0%)	2 (16.6%)	19.04%
Macrocytic hypochromic	3 (10.0%)	1 (8.3%)	9.52%
Dimorphic	5 (15.62%)	1 (8.3%)	14.28%

DISCUSSION

Anemia is a common condition in elderly patients and its prevalence increases with age. On most occasion it is wrongly attributed to normal ageing process. Anemia can impair quality of life as well as cognitive and physical functions and is a co-morbid condition that affects other diseases(e.g. heart disease, cerebrovascular insufficiency) and is even associated with a risk of death¹. Thus, anemia should not be accepted as a consequence of aging and must be explored .

Etiology of anemia is frequently difficult to determine even after extensive investigation in elderly patient². But anemia of chronic disease was found to be the most common form of anemia in elderly which may be the cause of high prevalence of normocytic anemia.

Amit Bhasin et al study showed that most common pattern of anemia in 60 to 70 yr age group was normocytic³. Our study closely correlate with this study. In the present study age group 60-70 years were least affected by anemia i.e. 41.6% were as patient of aging 80- 90 years were most affected i.e. 91.65% . Commonest pattern of anemia in present study was normocytic anemia i.e. 57.13%. Hee-seon Kim et. al. study correlates with present study⁷. Chul won choi et. al. in their study of anemia in elderly have observed 171 out of 1254 patient to be anemic. Out of them 144(11.4%) were women and 27(2.1%) were men. A significant difference in prevalence of anemia has been found among the age 60-70 years, 70-80 years, and 80-90 years. The most common pattern of anemia in their study has been found to be normocytic anemia i.e. 93.5% and 3.5% of them being microcytic, and 3% were macrocytic anemia⁸. Present study anemia in males (50%) is less as comapered to females(53.5%) which correlates with Chulwon choi et. al. study. But differs from Guralink J.M et.al study which shows prevalence of anemia in male (11.0%) is more as compared to female (10.2%) in age group 60 and above⁹. And also differ from National Health and Nutrition Examination Survey (NHANES III) carried out in the United States which revealed prevelance of anemia is 11% of male and 10.2% of female in people ageing 65 and above¹⁰. However this study was a hospital based study in comparision to population based study of NHANES III.

Anie et.al. has diagnosed anemia in 36% of males, being normocytic in 83%, microcytic in 14% and macrocytic in 3% as compared to 44% of women of which 80% is normocytic 16% is microcytic and 4% is macrocytic¹¹. In present study anemia in male patients was 50% of all of which 76.66% is normocytic, 16.66% was microcytic, 8.3% was macrocytic and 8.33% was dimorphic. As compared to female where anemic patient are 53.5% of all. Out of which 63.33% was normocytic, 20% was

microcytic, 10% was macrocytic and 15.62% was dimorphic. Nisseson et.al. Study has revealed that prevalence of anemia in general elderly population has been 7.5% for male and 20% for female¹². Present study also correlates by showing prevalence of anemia more in female as compared to males in elderly age group.

CONCLUSION

Diagnosing anemia and confirming its pattern is important since it help in directing further investigation reaching to the etiology and most importantly help in treatment. Although many anemic elderly patients can be diagnosed with nutritional deficiency, anemia of chronic inflammation or co morbid diseases, the etiology of anemia in a significant fraction remains obscure Non specific symptoms like fatigue and weakness should not be ignored attributing it to normal aging process as it can be important signal to presence of anemia .

REFERENCES

1. Woodman R, Ferrucci L, Guralnik J. Anemia in older adults. *Curr Opin Hematol.* [PubMed] 2005;12:123-8.
2. Andrès E, Loukili NH, Noel E, et al. Vitamin B12 deficiency in elderly patients. *CAMJ.*2004;171:251–60.
3. Bhasin a, Rao MY. Charecteristics of anemia in elderly: A hospital based study in south India . *Indian journal of hematology and blood transfusion* 2011 ;27(1):26-32
4. World Health Organization. Definition of an older or elderly person. Retrieved August 29, 2010.
5. Ferrucci L, Semba RD, Guralnik JM, et al. Proinflammatory state, hepcidin and anemia in older persons. *Blood.* 2010;115:3810-3826
6. Helda Khusun, Ray Yip, Werner Schultink and Drupadi HS Dillon. World Health Organization Hemoglobin Cut-Off Points for the Detection of Anemia. *Journal of Nutrition* 1999; 129:1669-74.
7. Hee-Seon Kim and Byung-Kook Lee. Cross-sectional study on the prevalence of anemia among rural elderly in Asan. *Nutr Res Pract* 2008; Spring; 2(1):8-12.

8. Choi CW, Lee J, Park KH, Yoon SY, Choi IK, Oh SC, Seo JH, Kim BS, Shin SW, Kim YH, Kim JS. Prevalence and Characteristics of Anemia in the Elderly Am J Hematol. Cross-Sectional Study of Three Urban Korean Population Samples. 2004; 77(1):26-30.
9. Guralnik Jack M, Eisenstaedt RS, Luigi Ferrucci. Prevalence of anemia in persons 65 years and older adults. Blood 2004; 104:2263-9.
10. Chernetsky A, Sofer O, Rafael C. Prevalence and etiology of anemia in an institutionalized geriatric population. Harefuah, 2002; 141:591-4,667.
11. Ania BJ, Suman VJ, Fairbanks VF. Incidence of anemia in older people: an epidemiologic study in a well defined population. J Am Geriatric Soc 1997; 45: 825-31.
12. Nissenson AR, Goodnough LT, Dubois RW. Anemia: not just an innocent bystander? Arch Intern Med 2003; 163:1400-1404.