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Research Article

Study of anemia in geriatric population: a hospital based study in Marathwada region, Maharashtra, India

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ABSTRACT

Background: In geriatric population, anemia is not only the common problem, but it may present as severe complications in this group compared with anemia in younger group. According to WHO criteria, level of hemoglobin less than 13 gm% in case of males and less than 12 gm% in females are considered as anemia.The main objective of the study was to study the various pattern of anemia in the geriatric population.
Methods: The study was carried out at JIIU's IIMSR Medical College and Noor Hospital, Badnapur, Jalna, Maharashtra, India from January 2014 to June 2015. Total number of patients taken for the study are 550 (>60 years) who attending geriatric and clinical OPD at Noor Hospital, Badnapur. Detailed haematological examination was carried out in each patient.
Results: Out of 550 cases, 369 (67.09%) patients were found to be anemic. Proportions of anemia in males was 64.74% and in females 70.58%. On peripheral smear examination normocytic being the commonest and constituting 78.86%.
Conclusions: Diagnosis of anemia in geriatric age group, and further to know its pattern, which thus helps in etiological diagnosis of anemia which ultimately helps in the treatment.

Keywords: Anemia, Geriatric patients, Marathwada region, Hospital base study

INTRODUCTION

In geriatric population, anemia is not only the common problem, but it may present as severe complications in this group compared with anemia in younger group. It really affects the quality of life.[1] It ultimately affects the mortality in this geriatrics age group.[2] The incidence of anemia under the age of 75 years and above 75 years is common in female and male respectively. As per the world health organization (WHO) criteria, the incidence of anemia is common is men above the age of 85 years. Various Indian studies support that incidence is common in female compare to male. In the geriatrics age group usually patient present with common symptoms like fatigue, weakness and shortness of breath, that's why in geriatric age group anemia is usually ignored by the physicians.[3,4] According to world health organization criteria, level of hemoglobin less than 13 g/dl in case of males and less than 12 g/dl in females are considered as anemic. Hence it is necessary to study the various pattern of anemia in the elderly population.

METHODS

This hospital based observational study was carried out at JIIU's IIMSR Medical College and Noor hospital, Badnapur, Jalna a teaching institute and tertiary care center located in rural Maharashtra, from January 2014 to June 2015. Total Number of patients taken for the study are 550 patients, (>60 years) who attending geriatric & clinical OPD. The study was approved by the institutional ethical committee. Informed consent was obtained from

all patients who were participating in study. According to WHO criteria, level of hemoglobin less than 13 gm% in case of males and less than 12 gm% in females are considered as anemic.[4] Pattern of anemia is decided with the help of peripheral smear. Detailed hematological examination was carried out in each patient. Peripheral smear was prepared to know the pattern of anemia. Pattern of anemia was classified on the basis of RBC indices and correlated with peripheral smear**.** Microcytic anemia was defined as MCV below 80fl, normocytic as MCV between 80 and 100 fl and dimorphic anemia one suspected when RDW is more than its normal range (11-15%) and dimorphic was used for correlation peripheral smear. Statistical analysis was done by using instant graph pad and mean.

RESULTS

In the present study, age of patients ranged from 60 to 87 years. The mean age was found to be 74.04. Maximum number of patients was in 60-70 years of age range (as shown in Table 1).

Table 1: Distribution of study subjects according to their age and sex.

Age group (years)	Male (%)	Female (%)	Total (%)
60-70	189 (58.6)	134 (41.4)	323 (58.8)
71-80	105 (62.1)	64 (37.9)	169 (30.7)
Above 80	35 (60.5)	23 (39.5)	58 (10.5)
Total	329	221	550 (100)

Out of 550 cases, 369 (67.09%) patients were found to be anemic. Proportions of anemia in males was 64.74% and in females 70.58%. All the types of anemia based on peripheral smear were evident, normocytic being the commonest constituting 78.86%, followed by microcytic hypochromic 11.11%, macrocytic 5.96% and dimorphic 4.07% (as shown in Table 2).

Table 2: Distribution of the anemic subjects according to patterns of anemia.

Patterns of anemia	Numbers	Percentage
Normocytic normochromic	261	70.73
Microcytic hypocromic	41	11.11
Normocytic hypocromic	30	8.13
Macrocytic	22	5.96
Dimorphic	15	4.07
Total	369	100

DISCUSSION

Anemia is a common problem in geriatric age group (more than 60 years age). In geriatric age group complications are more significant compared to younger adults & directly proportional to quality of life.[1] In our study, anemia of chronic disease is the most common form of anemia in the elderly which may be the cause for highest prevalence of normocytic anemia. Choi CW et al in their study of anemia in elderly have observed 171 out of 1254 patients to be anemic.[5] Out of them 144 (11.4%) have been women and 27 (2.1%) men. A significant difference in prevalence of anemia has been found among the age 60-69 years, 70-79 year and 80 and above years. The most common pattern of anemia in their study has been found to be normocytic anemia amounting to 93.5% and 3.5% of them being microcytic, and 3% were macrocytic anemias.[3,5]

In the present study, percentage of anemia in males was 64.74% and in females 70.58%. All the types of anemia based on peripheral smear were evident, normocytic being the commonest constituting 78.86%, followed by microcytic hypochromic 11.11%, macrocytic 5.96% and dimorphic 4.07%. Our findings are consistent with Choi CW et al and also same finding observed in the previous study done by Ania BJ et al.[5,6] Another study done by Nissenson AR et al also revealed that prevalence of anemia in geriatric age group has been 7.5% for males and 20% for females.[7] The present study also showed prevalence of anemia more in females as compared to males. Studies done by Guralink JM et al and Chernetsky A et al, in their studies percentage of anemia in male is more than females.[8,9] This finding is not matching to our study. The reason for this, our study has been hospital based study as compared to his population based study.

CONCLUSION

Diagnosis of anemia in geriatric age group was necessary, and further to know its pattern, which thus helps in etiological diagnosis of anemia which ultimately helps in the treatment.

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