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Original Research

Study of Anemia in Geriatric Population: A District Hospital Based Study in Agra

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ABSTRACT:
Background: In geriatric population, Low Hb (anemia) is not only the prevalent problem, but it often presents as various severe complications in this age group compared with low Hb in lesser age group. According to WHO criteria, level of hemoglobin<13 gm% in case of males and <12 gm% in females are considered as Anemia. The main objective of the study was to study the various pattern of anemia in the elderly geriatric population in District hospital of Agra. **Methods:** This study was carried out at District Hospital of Agra, UP, from June 2022 to January 2023. Total number of patients taken for the study are 150 with age >60 years who attending geriatric and clinical OPD at District Hospital, Agra. Detailed haematological examination was carried out in each patient. **Results:** Out of 150 cases, 101 (67.34%) patients were found to be anemic. Proportions of anemia in males was 63.74% and in females 71.58%. On peripheral smear examination normocytic normochromic anemia being the commonest and constituting 70.73%. **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, Agra region, District Hospital based study

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INTRODUCTION

In geriatric population, low Hb (anemia) is not only the common problem and its prevalence increases with age, but it often presents as various severe complications in this group compared with low Hb in lesser age group to warrant considering anemia in geriatric population as a distinct entity. It really affects the quality of life.[1] It ultimately affects the outcome in this geriatrics age group.[2] The incidence of low Hb (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 low Hb (anemia) is common is men above the age of 85 years. Various Indian studies favours that incidence is common in femalescompare to males. In the geriatrics age group, patients usually present with common symptoms like fatigue, weakness and shortness of breath, palpitations etc. that's why in geriatric age group,low Hb (anemia) is usually ignored by the healthcare workers.[3,4] According to World Health Organization (WHO) criteria, level of hemoglobin<13 g/dl in case of males and <12 g/dl in females are considered as anemic. Low Hb is associated with an increased risk for hospitalisation and death in older adults. Hence, it is needed to study the various patterns of low Hb (anemia) in the elderly population to manage accordingly.

METHODS

This is hospital based observational study was carried out at District Hospital of Agra, UP, over a period of 6 months from June 2022 to January 2023. Total Number of patients taken for the study were 150

patients, above 60 years of age who attending geriatric & clinical OPD. The study was approved by the ethical committee of District Hospital Agra. Informed consent was taken from all patients who were participating in this 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 low Hb (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. The following hematological investigations were carried out for all patients- Hb, Total Leucocute Count (TLC), Differential Leucocyte Count (DLC), Erythrocytic Sedimentation Rate (ESR), Platelet count, Mean Corpuscular Volume (MCV), Mean Corpuscular Hemoglobin Concentration (MCHC), Mean Corpuscular Hemoglobin (MCH), Packed Cell Volume (PCV), Reticulocyte count, Peripheral smear for blood picture and Serum ferritin. 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 90 years. The mean age was found to be 75.00. 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	52 (58.6%)	37 (41.4%)	89 (58.8%)
70-80	28 (62.1%)	18 (37.9%)	46 (30.7%)
Above 80	9 (60.5%)	6 (39.5%)	15 (10.5%)
Total	89	61	150 (100%)

Out of 150 cases, 101 (67.34%) patients were found to be anemic. Proportions of anemia in males was 63.74% and in females 71.58%. All the types of anemia based on peripheral blood smear were evident, normocytic normochromic anemia (NCNC) being the commonest constituting 70.73%, followed by microcytic hypochromic (MCHC) 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	72	70.73%
Microcytic Hypochromic	11	11.11%
Normocytic hypochromic	8	8.13%
Macrocytic	6	5.96%
Dimorphic	4	4.07%
Total	101	100

DISCUSSION

Anemia is a prevalent problem in geriatric age group i.e., >60 years age). In this 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 normochromicanemia (NCNC). 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 63.74% and in females 71.58%. All the types of anemia based on peripheral smear were evident, normocytic normochromic (NCNC) being the commonest constituting 70.73%, 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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ETHICAL APPROVAL: The study was approved by the District Hospital Agra ethical committee

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