A study of clinical profile of anaemia in elderly patients admitted at a tertiary care centre

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Abstract

Anaemia is one of the most important public health problem in developing countries like India, and is more prevalent in older population. Anaemia of any degree in elderly patients leads to significant morbidity and mortality, so the main purpose of the present study is to determine the clinical profile of anaemia in elderly.

Materials and Methods: An observational was conducted on a cohort of 100 elderly patients of both sexes aged more than 60 years, admitted to wards of general medicine at Basaweshwara medical college and hospital (BMCHRC), Chitradurga hospital from July 2016 to May 2017. A detailed history, through clinical examination and relevant blood investigations such as peripheral smear and biochemical investigations were done in all patients. The severity of anaemia was graded according to the WHO classification.

Results: Among 100 patients, 68 were male patients and 32 were females. Most of the patients (n=67) patients were between the age of 60 to 69 years, 20 patients between 70 to 79 years, very few (n=13) were above 80 years. Majority of patients had microcytic anaemia (43%) about 32% had normocytic anaemia and about 24% had macrocytic/ dimorphic anaemia and 1 patients had AML on peripheral smear. Out of 32 normocytic anaemia, 22 patients had anaemia of chronic disease, 7 patients had acute blood loss, 1 patient was diagnosed to have MDS and 2 had aplastic anaemia. Majority of anaemia of chronic disease were due to CKD (45%) and rest were due to tuberculosis, chronic liver disease and malignancy. Out of 43 Patients with microcytic anaemia 18 patients had anaemia due to chronic blood loss, 10 patients had anaemia of chronic disease and 15 patients were due to nutritional deficiencies.

Conclusion: Anaemia in elderly population is a common problem and it is usually underdiagnosed, so a systematic approach in diagnosis and evaluation of anaemia in elderly population helps in better management and improve the quality of life of the elderly persons.

Keywords: Elderly, Anaemia, Microcytic, Dimorphic.

Introduction

Anemia is a major public health problem in developing countries.[1] According to WHO, anaemia is defined as haemoglobin concentration less than 13 g/dL in males and less than 12 g/dL in females.[2] Anaemia is common problem in elderly patients, and it significantly increases the risk of morbidity and mortality and decreases the quality of life.[3] Even though the prevalence of anaemia does increase with age, normal healthy aging is not usually associated with anaemia. Anaemia is usually underdiagnosed in elderly patients as the symptoms like easy fatigability, generalised weakness or shortness of breath may be attributed to the normal aging process. So, anaemia in elderly should be promptly evaluated and treat potentially curable conditions without any delay to decrease the mortality and morbidity.

A survey conducted in United States on geriatric patients with anaemia showed that 11% in men and 10.2% in women had anaemia and the prevalence of anaemia was significantly increased with increasing age. In about two-third of elderly patients with anaemia causes were found to be nutritional anaemia and anaemia of chronic disease, and rest were unexplained.[4]

An Indian study on elderly individuals with anaemia showed an increased prevalence of anaemia ranging from 37 to 71%.[5-7] Many other studies on elderly patients with anaemia had determined that nutritional anaemia and anaemia of chronic disease were the most common causes. Other rare causes include thalassemia minor, hereditary spherocytosis, autoimmune haemolytic anaemia, hypothyroidism and myelodysplastic syndrome.

Diagnosis of anaemia is challenging in elderly patients because of variety of presentations of anaemia which is usually overlooked. So, this study was done to determine the clinical profile of anaemia in elderly individuals aged more than 60 years admitted at a tertiary care centre.

Materials and Methods

All patients aged 60 years and above, who were admitted to medical wards at Basaweshwara Medical College and Hospital (BMCHRC), Chitradurga hospital from July 2016 to May 2017, with clinical features of anaemia and Hb% < 13gms% in males, and < 12 gms% in female.

Inclusion Criteria: Patients aged 60 years and above fulfilling the WHO criteria of anaemia haemoglobin of

less than 13gm/dl in males and less than 12 gm/dl in females [2] and who gave written informed consent.

Exclusion Criteria

a. All patients who has received blood transfusion in the last 3 months
b. Patients who were started on treatment with haematinics.
c. Patients who didn't give consent for the study.

Following relevant investigations were done in all patients included in the study. Complete hemogram with peripheral smear, reticulocyte count, renal function tests, blood sugar, liver function test, Urine routine, thyroid profile, Chest X-ray, ECG, USG – Abdomen, Stools for ova & cyst and occult blood in stools, serum iron profile.

Data Analysis

Descriptive statistics was used to calculate the frequency, mean, and standard deviation. Microsoft word and excel have been used to generate the tables and figures.

Results

In our study of 100 elderly patients, age of patients ranged from 60 to 86 years.

68 patients were males and 32 patients were females. 67 patients were between the age group of 60 to 69 years, 20 patients between age group of 70 to 79 years and 13 patients above 80 years of age (Fig. 1). The mean age was found to be 66.9 years.
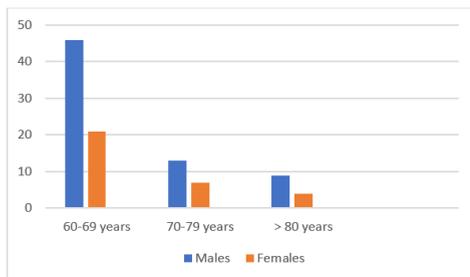

Fig. 1: Age and sex distribution of study population

According to Fig. 2, majority of patients had microcytic anaemia (43%) about 32% of patients had normocytic anaemia and about 24% had macrocytic/ dimorphic anaemia and 1 patients had AML on peripheral smear.
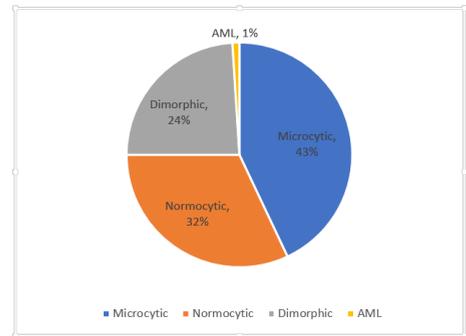

Fig. 2: Pattern of Anaemia based on peripheral smear

In Fig. 3, out of 32 patients with normocytic anaemia 22 patients had anaemia of chronic disease, 7 patients had history of acute blood loss, 1 patient was diagnosed to have MDS and aplastic anaemia was found in 2 patients.
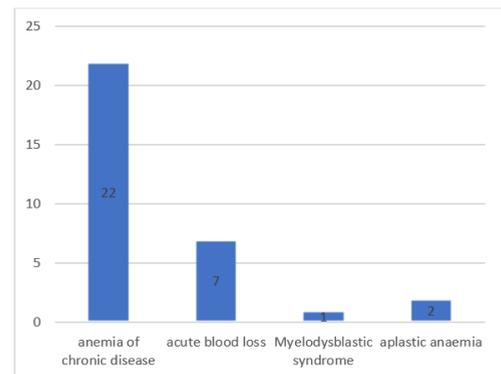
Fig. 3: Distribution pattern of normocytic anaemia in elderly patients with anaemia

Fig. 4 shows pattern of distribution of anaemia of chronic disease. Majority of patients with anaemia of chronic disease had CKD (45%) and rest were due to tuberculosis, chronic liver disease and rarely malignancies.
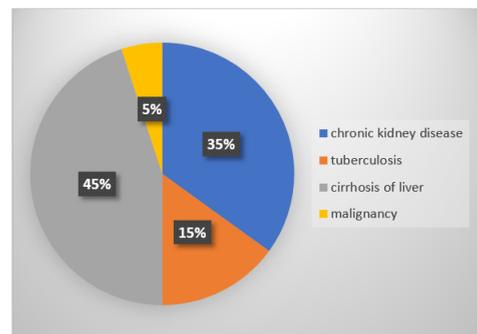
Fig. 4: Distribution pattern of Anaemia of Chronic Disease in elderly patients with anaemia

In 43 patients with microcytic anaemia, 18 patients had anaemia had history chronic blood loss, 10 patients had anaemia of chronic disease, 15 patients were due to nutritional deficiencies.

Discussion

Anaemia is a common condition in elderly and it has variety of presentation and it is associated with increased risk of morbidity and mortality. Anaemia in elderly population has been associated with an increased risk of cardiovascular diseases,[8] neurocognitive disturbences,[9] decreased quality of life,[10-12] and increased incidence of falls and fractures.

In our study, the patients ranged in age from 60 years to 86 years with the mean age of 66.9 years. In a survey done by Shrivastava et al[13] showed the mean age of the study population in their study was 73.06 years, and in a study done by Prakash et al,[14] mean age of study cohort was 66.65 ± 6.43 years which was comparable with the present study results. Majority of patients had microcytic anaemia (43%) about 32% had normocytic anaemia and about 24% had macrocytic/dimorphic anaemia and 1 patients had AML on peripheral smear but a study done by Ferrucci et al.[15] determined that majority of cases (33%) were due to anaemia of chronic disease, 22% of patients had iron deficiency, B12 and folate deficiencies were seen in 8% of elderly patients.

In the present study, anaemia of chronic disease (22%) was the most common cause of normocytic anaemia, which was comparable with a survey done by Weiss et al.[16]

In our study, among patients with microcytic anaemia, chronic gastrointestinal blood loss was the most common cause and similar results were found in the study conducted by Gordon et al.

Conclusion

Anaemia in elderly is a common problem and it is usually underdiagnosed, so a systematic approach in diagnosis and evaluation of anaemia in elderly population helps in better management and improve the quality of life of the elderly persons. In the present study majority of the patients were male between the age group of 60 to 69 years and microcytic anaemia was the most common type anaemia.

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