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Original Research Article

Study of clinical and hematological profile of anemia in hospitalized geriatric patients

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ABSTRACT

Background: Anemia is an important but underdiagnosed cause of morbidity in elderly. The clinical and hematological profile of anemia is different in different geographical area.
Methods: It was a retrospective study. Case files of 50 geriatric patients admitted in Basaveshwara Medical College and Research Institute, Chitradurga with anemia, were selected for the above study. Male patients with Hb <13 g/dl and female patients with Hb <12 g/dl were considered in the study.
Cases were analyzed to find out clinical and hematological profile of anemia.
Results: The commonest clinical presentation was easy fatigability (70%), followed by dyspnea (50%). The commonest cause of anemia was iron deficiency (36%) followed by Vitamin B 12 and folate deficiency (24%), anemia of chronic disease(12%).
Conclusions: Failure to evaluate anemia in elderly lead to delayed diagnosis of potentially treatable conditions. Nonspecific symptoms like fatigue and weakness should not be ignored, presuming that they are part of "normal ageing". An effort should always be made to reach etiological diagnosis before instituting treatment. Role of NSAIDs as a risk factor in anemia should not be overlooked.

Keywords: Anemia of chronic disease, Anemia, Geriatric, Iron deficiency

INTRODUCTION

In recent years there has been a sharp increase in the number of older persons. The UN agreed cut off to refer to Older patients (geriatric age group) is 60+ years. The world as a whole will have about 435 million additional elderly persons in next 15 years to reach 1.2 billion by 2025 from present 765 million in 2010 (from around 8% in 2010 to around 12% in 2025).[1] According to the Census 2011, India has 104 million older people (60+years), constituting 8.6% of the total population.[2]

Anemia is common in the elderly and its prevalence increases with age. In elderly person the etiology of anemia differs sufficiently from the etiology of younger adults to warrant considering anemia in geriatric persons as a distinct entity. Using world Health Organization criteria for anemia (Hemoglobin of less than 12gm per dl in woman and less than 13 g per dl in men), the prevalence of anemia in the geriatric patients has been found to range from 8 to 44 percent, with the highest prevalence in men 85 years and older.[3]

Anemia is associated with an increased risk for hospitalization and death in community dwelling older adults. Mild anemia was significantly associated with greater mortality in men but not in women.[4]

So, it is important to see for the causes and clinical manifestations of anemia in elderly.

METHODS

It was a retrospective study. Case files of 50 geriatric patients admitted in hospitals attached to Basaveshwara Medical College and Research Institute, Chitraduga, Karnataka, India with anemia, were selected for the above study. Male patients with Hb <13 g/dl and female patients with Hb <12 g/dl were considered in the study. Cases were analyzed to find out clinical and hematological profile of anemia.

Investigations including complete hemogram, peripheral smear, ESR, thyroid function test, reticulocyte count, Iron profile, Vit B12, folic acid levels, stool for occult blood, endoscopy, bone marrow analysis and radiological investigations were evaluated. Data analysis was done with use of SPSS, version 13.

RESULTS

The commonest clinical presentation was easy fatigability (70%), followed by dyspnea (50%). 40% patients had palpitation at the time of presentation.36 (72%) patients were males and 14 (28%) patients were females. (Figure 1).

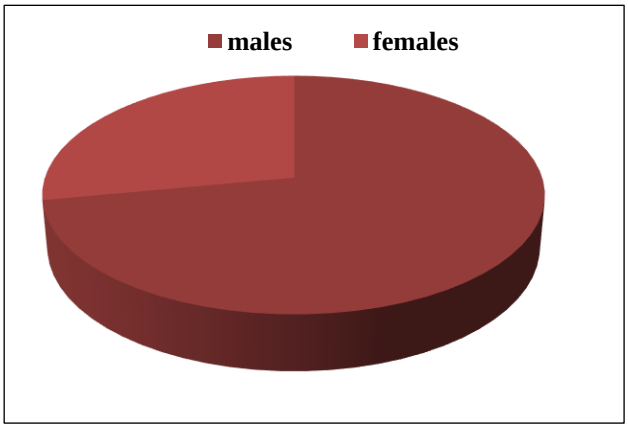

Figure 1: Sex distribution.

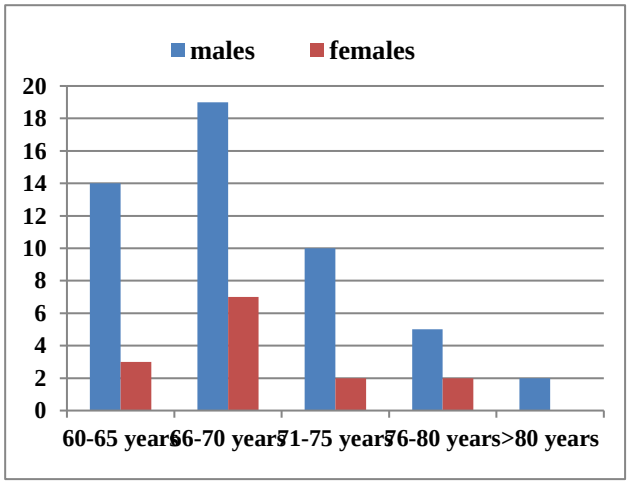

Figure 2: Age distribution.

The mean age of male patients were 66.4 years and females were 69.2 years. Majority of patients belonged to 65-70 years (Figure 2). Commonest type of anemia in our study was Iron deficiency anemia - 18 patients (36%), commonest cause being GI blood loss-12 patients (24%). Out of 12 patients,8 (16%) patients had upper GI cause for blood loss and 4 (8%)patients had lower GI cause for blood loss. (Figure 3). Among these patients 10 (20% patients) were on low dose aspirin therapy.

Second commonest type of anemia was megaloblastic anemia secondary to Vit B12 and folate deficiency-12 patients (24%).6 patients had Vit B12 deficiency, 4 had folate deficiency,2 had both Vit B12 and folate deficiency. 8 of these patients had a mixed diet.

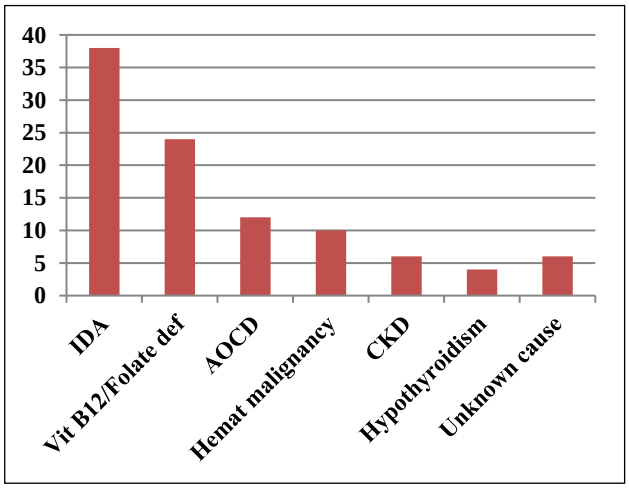

Figure 3: Causes of anemia.

Third common type was normocytic normochromic anemia secondary to chronic diseases12%). In patients with anemia of chronic disease, 3 patients had HIV infection (not on zidovudine containing regimen), 2 patients had tuberculosis and 1 patient (2%) had rheumatoid arthritis.

Hematologic malignancies were presented as anemia in 5 patients. (10%). 2 cases of chronic myeloid leukemia and one case each of acute myelogenous leukemia, multiple myeloma and non-Hodgkin's lymphoma. 3 cases were CKD patients and 2 cases were newly detected hypothyroid patients. Cause of anemia could not be identified in 3 (6%) cases even after thorough evaluation.

DISCUSSION

Ageing does not have effect on blood production. So, anemia in elderly should not be presumed to be secondary to ageing. Serum ferritin is the most effective way to detect iron deficiency anemia. Although MCV increases with ageing, ageing will not produce significant macrocytosis. In this study majority of patients were males (72%). Easy fatiguability was the major symptom (70%). Most patients were in the age group of 65-70

years. But a study done by Endres HG et al, concluded that among the 6880 individuals studied, 2905 were men and 3975 were women, aged 65-95 (mean age 72.5), mild anemia was found in 6.1% of women and 8.1% of men.[4]

In this study the commonest type of anemia was microcytic hypochromic anemia (38% patients). In Indian scenario along with chronic blood loss, dietary iron deficiency should also be considered as the cause for microcytic hypochromic anemia. In a study done by Elejalde Guerra et al, revealed that IDA is the most frequent, followed by hemorrhagic anemia and ACD.[5] This observation was discordant with studies done by Elis et al, and Ania et al, which showed normocytic normochromic anemia as the commonest cause of anemia in elderly.[6,7]

Second commonest type of anemia was megaloblastic anemia secondary to Vit B12 and folate deficiency (24%). The dietary history of patients should not be overlooked. Patients who are on long term PPI, metformin are more prone for Vit B12 deficiency of this patients were on long term PPIs.[3] Neurologic manifestations may develop even before anemia. Also B12/folate deficiency not always present as macrocytic anemia.

Third commonest cause of anemia was anemia of chronic disease (12%). In a study done by Davenport J et al, AOCD is considered to be the commonest cause of anemia in the world.[8] Another study done in South India by Dr. Prakash KG et al, also had AOCD as commonest cause of anemia.[9] In this study 3 the cases were suffering from HIV, 2 cases from tuberculosis and one patient from rheumatoid arthritis. HIV virus itself can produce bone marrow suppression. Many of HAART drugs are associated with bone marrow suppression.

Hematogenous malignancies commonly present with anemia. In this study 5 patients had hematologic malignancies (10%). High degree of suspicion, prompt evaluation, including bone marrow biopsy are necessary in such cases. 2 cases of chronic myeloid leukemia and one case each of acute myelogenous leukemia, multiple myeloma and non-Hodgkin's lymphoma.

Although no cases of myelodysplastic syndrome were reported in this study, MDS is an important cause of refractory anemia in elderly. In a study done by Bhasin A et al, hematological malignancies constituted only 1% cases.[10] Other common causes of anemia were Chronic kidney disease (6%), hypothyroidism (4%). Cause of anemia could not be found out in 3 patients (6%). In a study done by Jack and co-workers revealed anemia due to chronic renal failure was found in 13.2% of patients.[11] In a study done by Beghe et al, showed that 14-50% of anemic elderly had no obvious underlying cause, which is much more than this study.[12] Other study groups have reported that it is likely that some proportion of unexplained anemia cases are caused by myelodysplastic syndrome (MDS), another common hematologic condition in older adults.[13]

CONCLUSION

Failure to evaluate anemia in elderly lead to delayed diagnosis of potentially treatable conditions. Nonspecific symptoms like fatigue and weakness should not be ignored, presuming that they are part of ''normal ageing''. An effort should always be made to reach etiological diagnosis before instituting treatment. Role of NSAIDs as a risk factor in anemia should not be overlooked.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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