A Study of Prevalence of Geriatric Anemia in Gadag District

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Abstract

Background: Anemia is a major health challenge to global development. Geriatric anemia is a public health crisis, wide spread in India, which increases morbidity and mortality among older people. An evaluation is always needed to identify the underlying cause. *Objective:* To study the prevalence of anemia in geriatric patients attending medical OPD of GIMS hospital, Gadag. *Methodology:* In this prospective study, geriatric patients attending the medical OPD at GIMS hospital were screened for anemia. Patients of age 60 years and above from January 2015 to April 2015 were included in the study. Blood was collected in EDTA tube and hemoglobin was estimated using automated blood cell counter. *Results:* A total of 450 geriatric patients were evaluated for anemia. Our study showed severe prevalence of anemia (61.8%) in geriatric patients attending GIMS hospital. Among total 450 patients, 12% (54 cases) were mildly anemic, 24.2% (109 cases) were moderately anemic and 25.6% (115 cases) were severely anemic. There is severe prevalence of anemia among geriatric patients attending GIMS hospital. It is important to evaluate anemia, since it is an entity that lies within our ability to diagnose and treat.

Keywords: Geriatric; Anemia; Prevalence.

Introduction

Anemia is reduction of the total circulating red cell mass below normal limits [1]. Anemia as defined by WHO is a hemoglobin concentration of less than 13g/dl for men, less than 12g/dl for non pregnant women less than 11g/dl for pregnant women [2].

Geriatric anemia is global health problem, as 164 million people constituting 23.9% of the elderly population are suffering from anemia [3]. The UN cut off to refer to geriatric age group is 60+ years [4]. Geriatric anemia is serious public health problem as it is associated with significant morbidity and mortality in elder people; an evaluation is must to identify the underlying cause. It has significant health impact and compared to younger adults have more complications. The aim of the present study was to find out the prevalence of anemia in geriatric patients attending medical OPD of GIMS hospital, Gadag.

Materials and Methods

This is a hospital based study conducted in Hematology section of Department of Pathology at Gadag Institute of Medical Sciences, Gadag, Karnataka, India, from January 2015 to April 2015. Geriatric patients attending medical OPD were screened for anemia. Blood was collected in EDTA tube and hemoglobin was estimated by cyanmethhemoglobin method using Erma PCE 210 automated blood cell counter.

Based on hemoglobin concentration, patients were classified as non anemic and anemic; anemia was further graded into mild, moderate, and severe according to WHO criteria. Mild anemia was defined as a hemoglobin concentration from 11 to 12.9g/dl for men and 11 to 11.9 g/dl for women. Moderate anemia was defined by hemoglobin concentration from 8 to

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10.9 g/dl and severe anemia was defined by hemoglobin concentration lower than 8g/dl [5].

Prevalence of anemia was calculated by statistical analysis.

Results

Total 450 patients were evaluated for anemia. Among this 290(64.4%) were male patients and 160(35.6%) were female patients. Mean age of patients was 65.8 years. Majority (63.7%) of patients were in the age group of 60-65 years (Figure 1).

Out of 450 patients, 278 patients were diagnosed as having anemia, thus constituting 61.8% prevalence of anemia, which accounts for severe prevalence of anemia according to WHO classification of public health significance of anemia [2]. Anemia was more prevalent in the age group of 66-70 years (Table 1). In our study prevalence of anemia among males was slightly high (62.7%) compared to females (60%) (Table 2). Severe anemia was more prevalent among males, where as in females moderate anemia was more prevalent.

Among total 450 patients, 12% (54 cases) were mildly anemic, 24.2% (109 cases) were moderately anemic and 25.6% (115 cases) were severely anemic.

Table 1: Distribution of prevalence of anemia in different age groups

Age group (Years)	Total number of patients	Mild	Moderate	Severe	Total	Percentage
60-65	287	71	68	38	177	61.7
66-70	98	29	26	8	63	64.3
71-75	36	08	07	08	23	63.9
76-80	16	04	05	00	09	56.3
81-85	11	02	02	00	04	36.4
>85	02	01	01	00	02	100.0
Total	450				278	

Table 2: Distribution of prevalence of anemia according to sex

Sex	Total number of patients	Anemic patients	Percentage
Male	290	182	62.7
Female	160	96	60
Total	450	278	
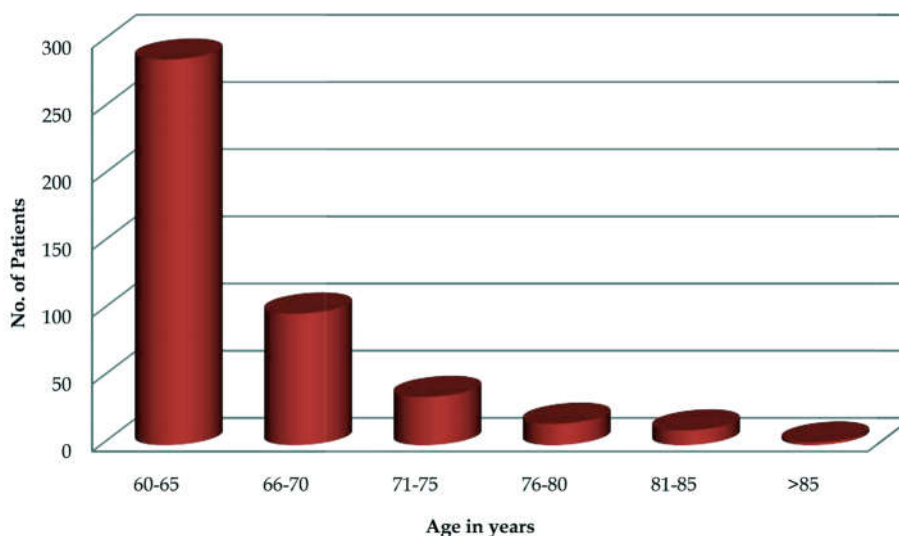
Fig. 1: Agewise distribution of ppatients

Discussion

Anemia is a global public health problem affecting both developing and developed countries, which has significant impact on human health as well as social and economic development. It is also indicator of both poor nutrition and poor health[3].

Estimating hemoglobin concentration is the most reliable indicator of anemia, which is relatively easy and inexpensive procedure. The main objective of

evaluating anemia is to find out the cause of anemia, which helps decide the measures to be undertaken to prevent and control anemia [3]. Cyanmethhemoglobin method has been gold standard objective method for hemoglobin estimation. It works on the principle of conversion of hemoglobin to cyanmethhemoglobin by the addition of potassium cyanide and ferricyanide [6].

WHO has classified public health significance of anemia, on the basis of prevalence estimated from blood levels of hemoglobin in populations. Accordingly normal, mild, moderate and severe category accounts for 4.9% or lower, 5.0-19.9%, 20.0-39.9% and 40% or higher [2].

The prevalence of anemia ranges from 8% to 44%, with the highest prevalence seen in men aged 85 years and older [7]. Study done by Mitrache et al to analyze the prevalence of anemia and its association with nutritional status in a hospitalized geriatric population showed 44% prevalence [8]. Studies done by Smieja et al [9] and Joosten et al [10] showed prevalenvce of 36% and 24% respectively. Our study showed severe prevalence of anemia (61.8%) in geriatric patients attending GIMS hospital. Majority of patients in our study were males and prevalence of anemia among males was slightly high compared to females. Similar findings were noted in other studies [11,12]. All the patients aged more than 85 years were anemic in our study.

Symptoms like fatigue and weakness, which are related to aging process, should not be ignored in the geriatric population [11]. Common causes of anemia being nutritional anemia, anemia of chronic diseases like chronic renal failure, along with other conditions like inflammatory conditions, neoplasms, miscellaneous conditions like infections and IHD [12,13].

In conclusion, as the cause for anemia is identified in 80% of the cases, it should not be taken as consequence of normal aging process [14]. Geriatric anemia is more prevalent in male patients. Anemia, if not properly evaluated increases morbidity and mortality among elderly patients. It is important to evaluate anemia, since it can be appropriately treated.

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