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Clinico-Haematological Profile of Geriatric Anaemia (A Study of 300 Cases)

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Abstract

Introduction: Anaemia in the elderly patients is associated with increased morbidity and poor health related quality of life. It is an emerging global health problem for 21st century which negatively impacts quality of life.

Aims and Objectives: The aim of this study is to know clinico-haematological patterns and morphological types of anaemia in elderly.

Material and Methodology: The present study is a descriptive cross-sectional study, which was conducted in Pathology Department of P.D.U. Government Medical College, Rajkot in which all the indoor patients of 60 years and above and clinically diagnosed as anaemic were included. Haematological investigations, factors like age, gender, symptoms and signs, peripheral blood smear, cause and grade of anaemia were utilized in this.

Result: Total 300 cases were studied; anaemia of chronic disease in age group 60-65 years was most common. Males were affected more than females. Smoking was the most common associated factor. Mostly respiratory system involved. Normochromic normocytic anaemia mostly seen. Grade-1 (mild) anaemia was most common.

Conclusion: Geriatric anaemia being under-reported and inadequately investigated, especially when mild, there is need of evaluation of even mild cases. Further studies with larger population and wider parameters should be encouraged.

Key Words: Anaemia, Geriatric patients, Clinico-haematological profile.

Introduction

Anaemia in the elderly is an extremely common problem that is associated with increased morbidity and poor health related quality of life.

It is easy to overlook anaemia in the elderly since symptoms like fatigue, weakness or shortness of breath may be attributed to aging process itself and should never be accepted as an inevitable consequence of aging. A progressive statistical increase in the number of elderly persons has been observed as a universal phenomenon. Thus, anaemia in the elderly patients is an emerging global health problem for the 21st Century which negatively impacts the quality of life.

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Aging by itself is unlikely to cause anaemia. Haemoglobin levels in the healthy older individuals do not change significantly from 60 to 98 years of age. Change that occur commonly during aging, increase the risk of anaemia, thus explaining the association of anaemia with age. These include reduced ability to absorb essential nutrients, decrease haematopoietic reserve and reduced sensitivity to erythropoietin.

Aims and Objectives

To study the clinico-haematological patterns of anaemia in the elderly patients 60 years and above. To detect the morphological types of anaemia prevalent amongst them. To know common etiology for anaemia. To know various associated disorders.

Materials and Method

The present study is a descriptive cross-sectional study which was conducted in the Department of Pathology, P.D.U. Government Medical College, Rajkot over a period of 1 year i.e. 1st July 2021 to 30thJune 2022.

All the indoor patients who were 60 years and above and clinically diagnosed as anaemic were included.

Routine haematological investigations:

Peripheral Blood smear examination was done using Field stain and Leishman stain.

Complete hemogram was done.

Special investigations:

Iron studies

Reticulocyte count

Perl's Stain

Bone-marrow examination etc. were done whenever required.

Observation and Analysis

Present study shows following results of geriatric anaemia of 300 cases.

Out of 300 cases males – 165 and females – 135.

Most of the cases have normochromic normocytic anaemia (44%), followed by hypochromic microcytic anaemia (31%), dimorphic anaemia (15%), normocytic hypochromic anaemia (6%) and macrocytic anaemia (4%) on peripheral blood smear findings.

Anaemia of chronic disease (55%) was the most common cause of geriatric anaemia, followed by iron deficiency anaemia (20%), blood loss related anaemia (12%), nutritional deficiency anemia (11%), hemolytic anaemia (1%).

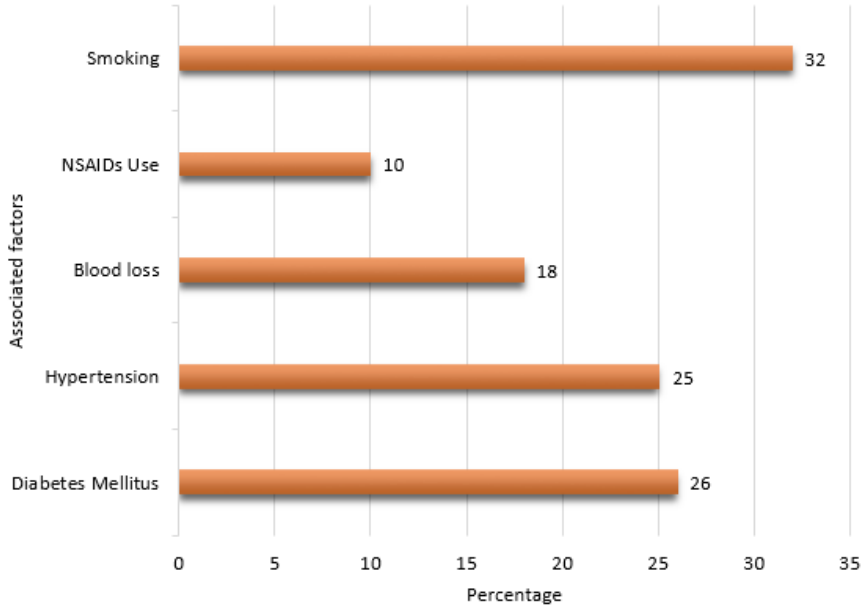

Figure 1: Associated factors correlation

Above figure show smoking was most associated risk factor for geriatric anaemia.

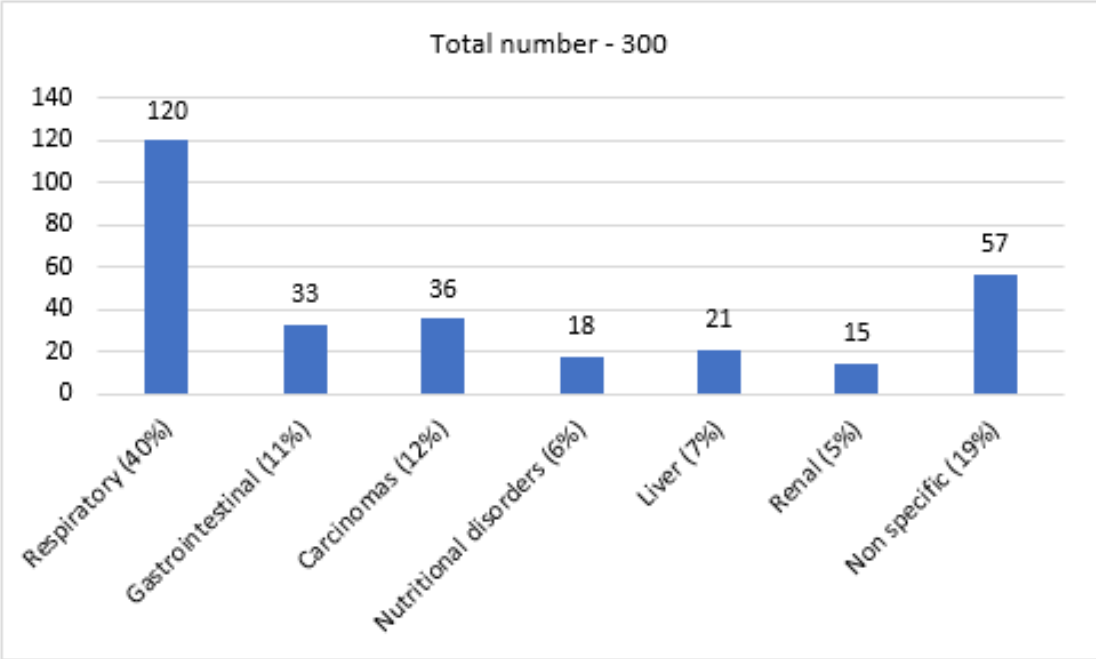

Figure 2: Relation with Symptoms and Signs:

Above figure shows respiratory system to be maximally associated system.

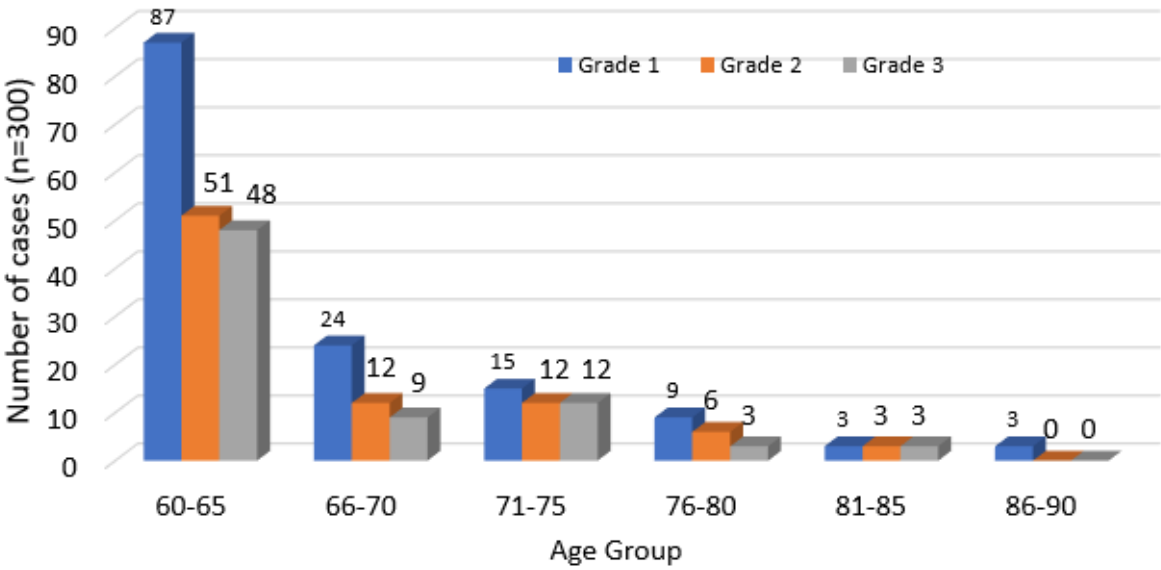

Figure 3: Age group wise Grading of anaemia:

Above figure 3 shows most common age group of geriatric anaemia was 60 to 65 years and grade of anaemia was grade 1.

Discussion

There was variation in age with high incidence in 7th decade in the present study (77%) compared with other studies - S.Amarneel*et al.* (Bhavnagar, Gujarat) 2015, n=42 (61.25%), Nisha TR *et al (Kozhikode,* Kerala) [2017] n=826 (44%) and Kiran Aithal *et al* (Dharwad Karnataka) [2017] n=100 (70%).

Table 1: Comparative Study of contributory causes resulting in anaemia:

Cause of Anaemia	*Present study (Rajkot, Gujarat) [2022] n=300*	*Nisha TR et al (Kozhikode Kerala) [2017] n=500*	*Guyatt et al. (Ontario, Canada) [1990] n=259*	*Joosten et al (Belgium) [1992] n=178*	*Mathew Rongjie Tay et al. (Singapore) [2011] n=424*
Iron deficiency Anaemia	20 %	12.2 %	36.3 %	15 %	13 %
Anaemia of Chronic disease	55 %	48.9%	43.6 %	41.5 %	29.3 %
Nutritional Anaemia	11 %	6.9 %	8.10 %	5.5 %	13 %
Blood loss	12 %	8.5 %	-	7.0 %	-
Haematological malignancy	1 %	18.5 %	2.70 %	11 %	0. 7 %
Others	1 %	5 %	9.3 %	20 %	44 %

There are various causes of geriatric anaemia out of that anaemia of chronic disease was most common cause in present study compared with other studies.

Table 2: Comparative Study of Grading of Anaemia:

Grade of Anaemia	**Present study (Rajkot, Gujarat) [2022] n=300**	**Nisha TR et al (Kozhikode, Kerala) [2017] n=826**	**Suma J.K. et al (Mysore) [2013] n=114**	**Ramya et al, (Puducherry) [2016] n=675**
Mild (10-12gm/dl)	47 %	68.8 %	19.29 %	80.9 %
Moderate (7-10 gm/dl)	28 %	26.3 %	16.7 %	16.7 %
Severe (<7 gm/dl)	25 %	4.9 %	2.4 %	2.4 %

Mild degree of anaemia was most common in geriatric patients compared with other studies.

Most common associated comorbidities was respiratory illness (29%) in the present study compared with other studies - Suma J.K. *et al* Maysore [2013] n=33 (36.4%) and Mathew Rongjie Tay *et al.* (Singapore) [2011] n=23 (34.8%).

Summary

Patients of age group of 60-65 years - most affected. Geriatric anaemia was found in males > females. Generalized weakness was the most common symptom in the studied population. 26% geriatric anemic patients had diabetes and 25 % had hypertension. Anaemia due to chronic diseases - most common etiological factor. The lowest hemoglobin observed in females was 1.5 gm/dl and the highest was 11.9 gm/dl and in males lowest hemoglobin 2.4 gm/dl and highest was 12.0 gm/dl. Mild degree (Hb: 10-12 gm/dl) of anaemia was most common and maximally affected age group was 60-65 years. Normocytic normochromic anaemia - most common morphological type of anaemia.

Conclusion

Despite the modern diagnostic advances, geriatric anaemia still remain under-reported and inadequately investigated, especially when mild, thereby necessitating evaluation of even mild anaemias in this vulnerable population.

Non specific symptoms like fatigue and weakness should not be ignored attributing it to normal aging process as it can be important signal to presence of anaemia.

Improved definitions of anaemia and more detailed investigations like bone marrow aspiration and biopsy also help to define the subtypes of anaemia, thereby facilitating prompt and accurate diagnosis to ensure appropriate patient management.

Ethical Clearance: Taken From Ethical Committee Of P.d.u. Medical College, Rajkot.

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Conflict of Interest: None.

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