EVALUATION OF HEMATOLOGICAL PROFILE IN GERIATRIC PATIENTS IN A TERTIARY CARE HOSPITAL –A RETROSPECTIVE STUDY

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ABSTRACT All healthy cells, tissues, organ systems, and organisms are impacted by the ageing.As people age, their bone marrow changes. Increased risk of myeloproliferative disorders, anaemia, and a deteriorating adaptive immunity are signs of age-related hematologic alterations, as is a loss in bone marrow cellularity.Evaluations of Haematological parameters can be used to track the disease's development. Hence, this retrospective study was designed to evaluate the haematological profile of geriatric patients and to compare the haematological parameters between males and females.

KEYWORDS

Geriatric;Gender;Haematopoietic stem cells; Anaemia; Red cell indices; Lymphocytopenia.

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INTRODUCTION

Ageing has minor affects on the hematopoietic system, but these effects start to stand out beyond age 65.All blood cells are produced in a balanced manner by hematopoietic stem cells (HSCs) throughout life. HSCs eventually lose their capacity for self-renewal and regeneration as people age, but cellular derailment is more common. Both cell-intrinsic and extrinsic factors contribute to the ageing process in HSCs, which reduces the formation of blood cells and impairs immune system performance.

There are distinct differences in physical, mental, and haematological traits at the geriatric period of life.Age-related clonal haematopoiesis; myelodysplastic syndromes, acute myeloid leukaemia, chronic lymphocytic leukaemia, multiple myeloma, and non-Hodgkin's lymphoma are among the myeloid and lymphoid malignancies that are more common in elderly populations[2].

Hematological parameters are classifiable blood components such leukocytes, platelets, and erythrocytes and their indices [3].Hematological testing can reveal whether an aged person has anaemia, as well as their nutritional state and immune system, providing information that can be used to track the disease's development [4].

Hence, this retrospective study was designed to evaluate the hematological profile of geriatric patients in a Tertiary Care Hospital, with the aim of detecting the possible alterations in the geriatrics with respect to genders.

MATERIAL AND METHODS

This retrospective Study was approved by yenepoya ethics committee 2 after the approval from scientific review board, a total of 445 geriatric Patients who were aged 60 years and above were included in this study.

Haematological parameters were calculated using mean and standard deviation for continuous data, frequency and percentage for categorical data.The independent sample t test was used to compare the haematological parameters of males and females.P value<0.05 considered as significant

Table I: Gender Distribution Of Geriatric Patients

Gender	Frequency	Percentage
Female	222	49.9%
Male	223	50.1%

Table II: Representing The Different Lymphocyte Count In Males And Females Among Geriatric Patients

	MALE			FEMALE		
Lymphocyte (%)	>40%	<25%	25-40%	>40%	<25%	25-40%
No .of. patients	5	179	39	8	168	46
% within Sex	2.2%	80.3%	17.5%	3.6%	75.7%	20.7%

Table III: Incidence Of Anemia Among Geriatric Patients.

Category	Male		Female		Total	
	Count	% within Sex	Count	% within Sex	Count	% within Sex
Normal	54	24.2%	45	20.2%	99	22.2%
Anaemic	169	75.8%	177	79.8%	346	77.8%
Total	223	100 %	222	100 %	445	100 %

Table IV-Comparison Of Hematological Parameters In Males And Females Among Geriatric Patients By Using Mean, SD And P Value.

Parameters	Gender	Mean	Standard Deviation	t value	p value
Haemoglobin	Males	11.11	2.38	0.540	0.589
	Females	10.82	7.41		
TLC	Males	12.71	8.99	0.641	0.522
	Females	11.96	14.98		
Neutrophils	Males	71.98	16.82	0.310	0.757
	Females	71.53	13.38		
Lymphocyte	Males	16.00	10.78	-2.565	0.011
	Females	18.65	10.95		
Eosinophils	Males	2.60	3.74	2.018	0.044
	Females	2.00	2.46		
Monocyte	Males	7.68	4.67	0.156	0.876
	Females	7.61	5.13		
Basophils	Males	0.39	0.38	-0.165	0.869
	Females	0.40	0.64		
PLT	Males	249.04	127.59	-1.105	0.270
	Females	261.94	118.52		
RBC	Males	3.916	0.87	-1.021	0.308
	Females	4.153	3.35		
PCV	Males	33.59	6.98	1.833	0.068
	Females	32.34	7.30		
MCV	Males	85.01	10.80	1.602	0.110
	Females	83.49	9.20		
MCH	Males	28.47	2.70	5.124	<0.001
	Females	27.08	3.03		
MCHC	Males	33.24	4.18	3.299	0.001
	Females	32.15	2.66		

CONCLUSION:

In the present study the most frequently observed haematological abnormalities in elderly persons were anaemia and lymphocytopenia. Anaemia was seen to be higher in females than males.

Lymphocytopenia was seen to be higher in males than females. Early evaluations of haematological profile will reduce morbidity and mortality among the geriatric patients.

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