General Medicine

TO STUDY THE PREVALENCE OF ANEMIA, LEFT VENTRICULAR HYPERTROPHY AND THEIR CORRELATION IN CHRONIC KIDNEY DISEASE PATIENTS

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KEYWORDS :

INTRODUCTION

Chronic kidney disease (CKD) is a worldwide public health problem. It is recognized as a common condition that is associated with an increased risk of multiple organ dysfunctions.

It is estimated that approximately 100,000 new cases of end stage renal disease develop annually in India which has significant morbidity and mortality.

In view of the high disease burden, its uneven distribution, expensive treatment and because of the fact that organized preventive strategies are not in place in most countries, CKD has assumed the proportions of a significant public health problem Data from the CKD registry of India reveals that diabetic nephropathy accounts for 31.2% of CKD in India.

The average age of ESRD population in India is 50 years. This is approximately 20 years less than that reported in some European countries.

Treatment by dialysis and transplantation remains out of reach for the vast majority of Indian patients because of the high cost of renal replacement therapy.

AIMS AND OBJECTIVES

1. To estimate the prevalence of anemia and left ventricular hypertrophy in chronic kidney disease patients.
2. To study the correlation of anemia with left ventricular hypertrophy in chronic kidney disease patients.

MATERIALS AND METHODS
Source of Data:
The study was carried out in Government General Hospital ,Kakinada
SAMPLE SIZE :-

100 cases of chronic kidney disease at different stages satisfying the inclusion criteria admitted in the Department of General Medicine were studied.

DURATION OF THE STUDY :-
This study was conducted over a period of 12 months, from JANUARY 2021 to DECEMBER 2021

Detailed clinical history was taken and detailed clinical examination was done on participating individuals.

• Patients were subjected to relevant investigations such as
1. Complete blood picture
2. Blood urea
3. Serum creatinine
4. Peripheral smear
5. Serum electrolytes
6. Serum Iron, Serum Ferritin , TIBC
7. CHEST X-RAY
8. ECG
9. 2D-ECHOCARDIOGRAPHY

INCLUSION CRITERIA
All patients with chronic kidney disease stage II – V.

Patients aged more than 18 years.

EXCLUSION CRITERIA:-
Patients presenting with anemia without chronic kidney disease.

Patients with left ventricular hypertrophy with cause other than chronic kidney disease. (like primary hypertension, aortic stenosis etc.) Patients aged less than 18 years.

RESULTS

		A -ve	A +ve	L - ve	L + ve
CKD	II	7	2	4	5
	III	6	11	4	13
	IV	4	28	7	25
	V	2	40	1	41
Total		19	81	16	84
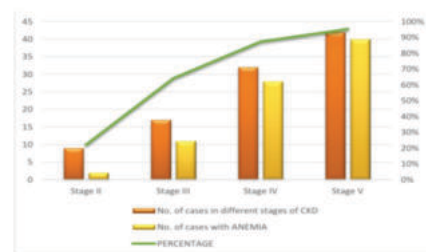
DISCUSSION
In our study of 100 patients, the age of the patients ranged from 19 to 76 years. Of these, maximum patients were in age group 41-50 years (27%). Mean age of the patients was 47.73 ± 13.266years.

In our study the prevalence of CKD is more in the male (69%) than female (31%) , the mean age in male is 47years and in female is 48 years.

Brown reported remarkably high prevalence in both men and women, but women had a tendency to have a higher prevalence of CKD than men (14.4% in men and 16.2% in women, $p = 0.09$).

In our study out of 100 CKD cases, 42 were in stage V CKD, 32 were in stage IV CKD, 17 were in stage III CKD, 9 were in stage II CKD, with the percentage being 42%, 32%,17%,9% respectively.

It was observed that stage V & IV had majority of cases compared to the other stages.

In our study the prevalence of anemia in different stages of CKD is 22% in stage II (2 out of 9 cases) 64% in stage III (11 out of 17 cases) 87.2% in stage IV (28 out of 32 cases) 95.2% in stage V (40 out of 42 cases)

In our study considering the correlation between anemia & LVH we found that in stage II CKD 2 cases found to be anemic and had LVH,in stage III 11 cases of anemia with had LVH, in stage IV out of 28 anemic patients 25 patients found to have LVH, in stage V 40 anemic patients had LVH and the p value <0.000 was significant

CONCLUSION

The following conclusions were made after completion of this study :
Chronic kidney disease is a worldwide health problem.
Cardiovascular disease is the leading cause of mortality in patients with chronic kidney disease in all the age groups.

In our study the mean age group of prevalence of CKD is 47.7 years.

Out of 100 cases, 31 are female & 69 are male showing male predominance.

In our study anemia is prevalent in all the stages of CKD (p = 0.000) and is highly prevalent in stage IV & V.

Left ventricular hypertrophy is more common in patients with chronic kidney disease in all the stages

In this study left ventricular hypertrophy is prevalent in all the stages of CKD (p = 0.005) even in early stages (i.e., stage II – 55.5%).

In present study both anemia & LVH are prevalent in CKD patients and we found that all the CKD patients with anemia have left ventricular hypertrophy regardless of patient being hypertensive. Hence found a correlation between anemia and LVH.

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