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A STUDY OF CLINICAL PROFILE OF CHRONIC RENAL FAILURE PATIENTS IN TERTIARY CARE HOSPITAL

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Abstract:

CKD is a progressive disease characterized by an increasing inability of the kidneys to maintain normal low levels of the products of protein metabolism, normal blood pressure, hematocrit, sodium, water, potassium and acid-base balance. A cross section study of 50 patients was conducted to find out CKD aetiology, clinical & biochemistry profile, age & sex preference, involvement of other system and requirement of dialysis. Major (81%) aetiology was diabetes & hypertension. There was no sex difference. Anorexia, nausea, vomiting, oliguria, easy fatigability, breathlessness, pedal edema were Common complaints where as Common complications were anaemia, electrolyte imbalance and pulmonary edema. Early diagnosis and proper treatment of conditions like HT, DM, & Renal Stones may retard the progression of renal disease.

Key words: CKD, GFR, HT, DM

Introduction:

Kidneys are one of the most vital organs of human body. Kidneys bear a huge responsibility in the survival of human body. They keep our internal environment in balance and play an essential role in the maintenance of normal homeostasis. (1) It therefore comes as no surprise that *CHRONIC KIDNEY DISEASE (CKD)* (replacing the earlier term – chronic renal failure) and the resultant decline in kidney function can seriously affect essentially every organ system. As kidney function deteriorates loss of excretory, regulatory and endocrine function take place and complication develops in every organ. (2) Despite the diversity of causes, the pathophysiology, clinical manifestation and outcomes are quite similar across the spectrum. But if the patient comes in early phase, then there are fair chances of preventing further progression of the disease and even recovery with treatable and reversible causes and prolongs life of patient. (3) Chronic kidney disease (CKD) is a progressive disease which is characterized by an increasing inability of the kidneys to maintain normal low levels of the products of protein metabolism (such as urea), normal blood pressure, hematocrit, sodium, water, potassium and acid-base balance. Renal function is clinically monitored by measurement of serum

creatinine and blood urea nitrogen (BUN), by urinalysis & GFR. Treatment must be provided over a lifetime and be directed against the cause, the progression and the many consequences of the loss of renal function.

The number of patients with end stage renal disease is growing worldwide. Chronic kidney disease (CKD) is rapidly assuming epidemic proportions globally. (4) (5) (6)

In India too, there is a significant burden of CKD although exact figures vary. (7) About 20 – 30 patients have some degree of renal dysfunction for each patient who needs renal replacement treatment. But Less than 10% of end stage renal disease patients have access to any kind of renal replacement therapy. (8) (9)

Diabetes, Glomerulo - nephritis, hypertension, polycystic kidney disease & tubulointerstitial nephropathy is the most common causes of end stage renal disease. 6% of adult population suffers from CKD Stage-I & Stage-II whereas 3.5% adult population suffers from CKD Stage-III & Stage-IV. (10)

Materials & methods:

In the present study, 50 patients of CKD admitted at GG Hospital, a tertiary care hospital, Jamnagar during period of 1 year, were included. Patients were selected

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irrespective of age, sex, etiology, management or outcome with purposive sampling technique. Written informed consent form was given to the patient and if patient permitted then only recruited in study. Data were collected using a pretested Performa meeting the objectives of the study. Inclusion criteria were Age \geq 19years, Non pregnant, Non HIV,

Anasarca, Anaemia, Raised RFT, USG KUB finding especially CM differentiation abnormality. Exclusion criteria were Age \leq 18year, Pregnant female, HIV positive, ARF, Normal USG KUB findings. Term used CKD is defined as the presence of either kidney damage or Glomerular filtration rate (GFR) <60 ml/min/1.73 m². (11)

Results:**Table: 1 Socio-demographic profile of the study population.**

Characteristics	Frequency (Percentage, %)
Age groups (in years)	
\leq 20 years	5 (10%)
21-40 years	9 (18%)
41-60 years	20 (40%)
61-80 years	14 (28%)
\geq 81 years	2 (4%)
Gender	
Male	24 (48%)
Female	26 (52%)
Education Status	
Illiterate	37 (74%)
Primary	05 (10%)
Secondary	06 (12%)
Graduate	02 (4%)
Occupational	
Farmer	6 (12%)
Housewife	26 (52%)
Labourer	08 (16%)
Service	02 (4%)
Others	08 (16%)
Socioeconomic class	
Upper	0 (0%)
Middle	11 (22%)
Lower	39 (78%)

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In present study of CKD patients maximum patients belonged to age group 41-60 years, i.e. 40% patients, followed by 61-80 years age group, i.e.28% with mean age of 51.74 years. Almost same distribution among male& female patients. Majority of participants were illiterate i.e. 74%. All

women participants were housewife, where as of 48 % men, 16% were labourers, 12% were farmers, 4% were doing service in public or private sectors. None of the participants belonged to upper class. 78% participants belonged to lower class & rest of them from middle class.

Table: 2 Distribution of the study participants as per clinical symptoms.

Symptoms	No. Of participants (n=50) (Percentage)
Puffiness of face (Facial Oedema)	12 (24%)
Pedal Oedema	22 (44%)
Cough	10 (20%)
Breathlessness	22 (44%)
Anorexia	35 (70%)
Nausea	25 (50%)
Vomiting	25 (50%)
Hiccough	08 (16%)
Fever	10 (20%)
Increased stool Frequency	04 (8%)
Abdominal Pain (Flank Pain)	09 (18%)
Altered Sensorium	02 (4%)
Oliguria	30 (60%)
Generalized Weakness	20 (40%)

Most of the patients complained of anorexia, nausea, vomiting and oliguria. Most commonly presented renal symptom was oliguria by 60% patients, other urinary complaints, namely abdominal pain (flank pain) was present in 18%. Pedal oedema was present in 44% where as facial oedema was present in 24% patients. The

gastrointestinal complaints like nausea & vomiting found in 50% of patients & hiccough in about 16%. The respiratory complaints like cough, breathlessness was present in 20% & 44% respectively. Only about 4% patient had CNS manifestations in the form of altered sensorium. 40% patients had generalized weakness.

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Table: 3 Distribution of the study participants as per involvement of the various systems

Manifestations	Stage of Renal Disease			Total	
	Early	Late	Terminal	Frequency	Percentage (%)
LVH	01	02	05	09	18
Dyspnoea	01	11	10	22	44
LVF	0	04	03	07	14
Tachycardia	0	04	04	08	16
Pericardial rub	0	0	0	0	0
Pericardial effusion	0	0	0	0	0
Chest pain	01	06	11	18	36
Easy fatigability	01	08	11	20	40
Peripheral neuropathy	0	08	06	14	28
Confusion	0	02	02	04	08
Convulsion	0	0	01	01	02
Involuntary Movements	0	0	01	01	02
Sleep Disturbances	01	01	3	05	10
Basal Creps	0	12	06	18	36
Dyspnoea	01	10	11	22	44
Pleural Effusion	0	01	04	05	10
Kussmaul Respiration	0	04	02	06	12
Pulmonary Koch's	0	0	0	01	02
Anorexia	02	14	19	35	70
Nausea	02	08	15	25	50
Vomiting	02	08	15	25	50
Hepatomegaly	00	01	01	02	04
Flank Pain	00	04	05	09	18
Ascites	00	00	01	01	02

Cardiovascular manifestation were dyspnoea 44% (22), chest pain 36% (18). In CNS manifestations, 40% (20) had easy fatigability, 28% (14) had peripheral neuropathy. Respiratory system complaints were dyspnoea 44% (22) patients, followed by basal creps 36% (18) patients, kussmaul's respiration in 12% (6), Pleural

effusion in 10% (5) & only 2% (1) patient had pulmonary Koch's. The most common finding in alimentary system was anorexia in 70% (35), followed by nausea & vomiting in 50% (25) patients, flank pain in 18% (9), hepatomegaly in 4% (2) & only 2% (1) patient had ascites.

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Table: 4 Distribution of patients according to their Etiology

Etiology	Frequency	Percentage (%)
Diabetes Mellitus	14	28
Hypertension	29	58
Polycystic Kidney Disease	01	02
Renal Stone	02	04
Idiopathic	04	08
Total	50	100

Thus, the most common cause of chronic kidney disease in this study was hypertension, in 58% (29) patients, followed

by diabetes mellitus in 28% (14), idiopathic in 8% (4), renal stone in 4% (2), & polycystic kidneys in 2% (1) patients.

Table: 5 Distribution of patients according to their Glomerular Filtration Rate.

GFR (in ml/min)	Stage	Frequency	Percentage (%)
≥90	1	01	02%
60-89	2	01	02%
30-59	3	04	08%
15-29	4	14	28%
<15	5	30	60%
Total		50	100%

Here it shows distribution of participants based on their Glomerular filtration rate. Almost i.e. 60% (30) patients had GFR <15, 28% (14) patients had GFR between 15-29, 8% (4) patients had GFR between 30-59, 2% (1) patient had GFR between 60-89, 2% (1) patient had GFR ≥90.

Conclusion:

We aimed to spotlight the growing incidence of CKD among the population. The growing incidence of this problem is a major health hazard in our country which we can ill afford. Chronic renal failure is more common between fourth and sixth decade. Anorexia, nausea, vomiting,

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oliguria, easy fatigability, breathlessness, pedal edema etc. were common clinical complaints of chronic renal failure. The other complications like Anaemia, Hypocalcaemia, Hyponatremia and Hyperkalemia were also present in significant numbers and emphasize the need for the detection and correction of these complications. Dyspnoea was most common cardiovascular symptom, followed by chest pain. Easy fatigability was most common central nervous symptoms. Anorexia, nausea & vomiting were common alimentary symptoms. Most common finding of respiratory system was dyspnoea, followed by basal creps followed by kussmaul respiration, followed by pleural effusion. Pulmonary Koch's was present in only 2% participants. Early diagnosis and proper treatment of conditions like HT, DM, & Renal Stones may retard the progression of renal disease.

Reference:

1. Harrison's Principles of Internal Medicine. 18th. 2012, Vol. II, 277, p. 2280.
2. K/DOQI. clinical practice guidelines for chronic kidney disease: evaluation, classification and stratification. Am J Kidney Dis. 2002 Feb; 39 (2 Suppl 1): S1-266. PubMed | Google Scholar.
3. Consensus Development Conference Panel. Morbidity and mortality of renal dialysis: an NIH Consensus conference statement. Ann Intern Med. 1994 Jul 1; 121(1):62-70. PubMed | Google Scholar.
4. Collins AJ, Foley RN, Chavers B, Gilbertson D, Herzog C, Johansen K, et al. 'United States Renal Data System 2011 Annual Data Report: Atlas of chronic kidney disease and end-stage renal disease in the United States. (e1-420).Am J Kidney Dis. 2012;59:A7. [.
5. Jha V, Garcia-Garcia G, Iseki K, Li Z, Naicker S, Plattner B, et al. Chronic kidney disease: Global dimension and perspectives. Lancet. 2013;382:260–72. [PubMed].
6. Couser WG, Remuzzi G, Mendis S, Tonelli M. The contribution of chronic kidney disease to the global burden of major noncommunicable diseases. Kidney Int. 2011;80:1258–70. [PubMed].
7. Rajapurkar MM, John GT, Kirpalani AL, Abraham G, Agarwal SK, Almeida AF, et al. What do we know about chronic kidney disease in India: First report of the Indian CKD registry. BMC Nephrol. 2012;13:10. .
8. Agarwal SK, Srivastava RK. Chronic kidney disease in India: Challenges and solutions. Nephron Clin Pract. 2009;111:c197–203.
9. Kher V. End-stage renal disease in developing countries. Kidney Int. 2002;62:350–62.
10. Harrison. Chronic kidney disease. Harrison's Principles of internal Medicine. 2012. Vol. 2, p. 2310 .
11. National Kidney Foundation. K/DOQI clinical practice guidelines for chronic kidney disease: Evaluation, classification and stratification. Am J Kidney Dis. 2002;39:S1–266. .

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12. Vassalotti JA, Stevens LA, Levey AS. Testing for chronic kidney disease: A position statement from the National Kidney Foundation. *Am J Kidney Dis.* 2007;50:169–80.

13. Singh NP, Ingle GK, Saini VK, Jami A, Beniwal P, Lal M, et al. Prevalence of low glomerular filtration rate, proteinuria and associated risk factors in North India using Cockcroft-Gault and Modification of Diet in Renal Disease equation: A Vols. An observational, cross-sectional study. *BMC Nephrol.* 2009;10:4.