TO STUDY THE ETIOLOGICAL PROFILE IN CHRONIC KIDNEY DISEASE PATIENTS

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Abstract

Background: Chronic Kidney Disease (CKD) is determined by the presence of kidney injury and by the level of renal function, assessed according to the glomerular filtration rate.

Methods: This observational case study will be conducted among patients of newly diagnosed or known cases of chronic kidney disease admitted or attending outdoor clinic at Mahatma Gandhi Hospital Jodhpur.

Results: Twenty three patients out of 75 were diabetic, 19 patients had chronic kidney disease of unknown etiology and 12 had both DM and HTN, only one patient had CKD because of RCC.

Conclusion: Most common etiologies of CKD patients on hemodialysis are Diabetic nephropathy.

Keywords: Chronic Kidney Disease (CKD), Hypertension, Diabetes.

Introduction

Chronic Kidney Disease (CKD) is determined by the presence of kidney injury and by the level of renal function, assessed according to the glomerular filtration rate. CKD is divided into five stages. Until the fourth stage of the disease, conservative treatment is recommended. End-Stage Renal Disease (ESRD), the most advanced stage, when the kidneys can no longer maintain homeostasis of the body, the patient will depend on dialysis or kidney transplant.^{1,2}

The cause of CKD is unclear in majority of cases, however renal biopsy could help to reach aetiology in most case. The cause of CKD depends on presence or absence of underlying systemic diseases and location of known or presumed pathologic abnormalities (glomerular, tubule-interstitial, vascular or cystic and congenital diseases).¹

The clinical course is typically a progressive loss of nephron function ultimately leading to end stage renal disease (ESRD) characterized by hypertension, anemia, renal bone disease, nutritional impairment, neuropathy, impaired quality of life and reduced life expectancy ultimately needing some form of renal replacement therapy. This puts a substantial burden

on global health resources since all modalities of treatment are expensive.

Chronic Kidney Disease (CKD) is emerging as an important public health problem, not only in developed countries, but also in developing countries. Reasons for rising incidence of CKD are increasing incidence of diabetes and hypertension.³ WHO has identified kidney diseases as 12th and 17th major cause of death and disability worldwide, respectively.^{4,5} This study was conducted to see the etiological profile of the CKD patients.

Material and methods

This observational case study will be conducted among patients of newly diagnosed or known cases of chronic kidney disease admitted or attending outdoor clinic at Mahatma Gandhi Hospital Jodhpur.

The diagnosis of chronic kidney disease will be based on patient history, physical examination, Biochemical findings, urine microscopy and Ultrasonography.

(I) Inclusion criteria:

Patients with:

Newly diagnosed or known case of chronic kidney disease patients.

(II) Exclusion criteria:

Patients with:

- Chronic liver disease
- Chronic obstructive pulmonary disease
- Acute kidney injury
- Primary hyperparathyroidism

Observation

The present study included 75 patients with chronic kidney failure who fulfilled inclusion criteria and were either admitted or attended outpatient department, at the Mahatma Gandhi Hospital, attached to Dr S. N. Medical College, Jodhpur. The data obtained from these cases formed the basis of our study.

Table 1: Age & gender wise distribution

Age (Yrs)	Male	Female	Total
≤ 20	1(2.50%)	1(2.86%)	2(2.67%)
21-40	8(20.0%)	13(37.14%)	21(28.00%)
41-60	13(32.50%)	11(31.43%)	24(32.00%)
≥ 60	18(45.0%)	10(28.75%)	28(37.33%)
Total	40(100.00%)	35(100.00%)	75(100.00%)

Fifty two (69.33%) patients out of 75 were more than 40 year of age. 40 patients (53.3%) were male and 35 (46.7%) were female.

Table 2: Etiology

Etiology	No. of patients	Percentage
Diabetes	23	30.67
Hypertension	10	13.33
Diabetes+Hypertension	12	16.00
Analgesic Nephropathy	3	4.00
Obstructive Uropathy	5	6.67
Unknown etiology	19	25.33
Renal Cell Carcinoma	1	1.33
Urinary Tract Infection	2	2.67

Twenty three patients out of 75 were diabetic, 19 patients had chronic kidney disease of unknown etiology and 12 had both DM and HTN, only one patient had CKD because of RCC.

Discussion

A cross-sectional observational study of 75 patients, who fulfilled inclusion criteria, was done at Mahatma Gandhi hospital attached to Dr S.N. Medical College Jodhpur, Rajasthan.

Majority of patients in the study were above 40 years of age. Mean age was 51.88 ± 17.10 years with a range of 17-80 years. Of these 53.3% were male and

46.7% were female. Forty eight percent had rural back ground where as 52% had urban.

Major etiology of CKD was diabetes (30.6%) with almost equal male (47.83%) to female (52.17%) ratio. *Vikrant et al*⁶ also found diabetes as a cause of CKD in 27.7% patients and *Valson et al*⁷ found diabetes as a cause of CKD in 36.6% of patients. Of the other causes hypertension (13.33%), analgesic nephropathy (4%), obstructive uropathy (6%) were more common in males while urinary tract infection (2.6%) and unidentified cause (25.33%) were more commonly seen in females.

All the patients had CKD of stage III or more. Maximum number of patients had stage V disease

(54.67%) followed by stage IV (32%) and stage III (13.30%). *Vikrant et al*⁶ also found that all patients had CKD of stage III or more. However in their study majority of patients had stage III disease (39.6%) followed by V and IV.

Conclusions

Most common etiologies of CKD patients on hemodialysis are Diabetic nephropathy.

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