

Outcome of ESRD Patients Diagnosed Incidentally and Requiring Renal Replacement Therapy

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Abstract

Background: Many patients are unaware and diagnosed at a very late stage of chronic kidney disease (CKD) even just at the time of need for urgent dialysis. Due to lack of optimum health care facilities and awareness about kidney diseases many patients are not be diagnosed well ahead of reaching end stage renal disease (ESRD).

Aim: In this study patients with ESRD, who were diagnosed in a very late stage requiring dialysis, were follow-upped for a period of 3 months after starting their 1st dialysis to evaluate early outcomes.

Method: Patients admitted during the year 2016 in nephrology unit with uremia, previously undiagnosed CKD, requiring dialysis were included in the study. They were dialyzed immediately by temporary access hemodialysis or acute peritoneal dialysis by rigid catheter. Subsequently discharged with advice to continue dialysis as required and come on follow-up. A follow up for three months was done over telephone enquiring their subsequent clinical condition, mode of maintaining renal replacement therapy and status with source of financial support.

Result: Among 76 patients 38% were female and mean age of all patients was 34±13 years . The serum creatinine at admission was 13.56±3.5 mg/dl and Hb% 7.7±1.55 gm%. Majority had proteinuricnephropathy but the definite primary disease was unknown. Acute peritoneal dialysis was given to 36% (27 patients), hemodialysis through temporary vascular access to 47% (36 patients) and other 17% refused to take any form of renal replacement therapy. After three months follow up 43% patients were found dead, 24% on hemodialysis either regular or on irregular schedule, 5% opted renal transplantation, 12% surviving on medical management and 16% could not be traced over phone. Among all the dialysis patients 4% patients could get the opportunity to be enrolled into subsidized government dialysis unit.

Conclusion: CKD patients presenting at ESRD, diagnosed incidentally, is not uncommon in Bangladesh. The outcome is poor in this group with nearly half succumbing to death within three months and only one-fourth continuing on some form of hemodialysis. Until and unless CKD detection program with awareness is established at primary level, incidentally diagnosed patient with poor outcome will continue rising.

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Introduction

Chronic kidney disease (CKD) and end stage Kidney disease (ESKD) are highly prevalent in both industrialized and developing countries of the world. While most industrialized countries have developed efficient renal registries, its either none existennce or at its infancy in most developing ones hence only hospital derived data are available for assessing.

On the other hand the healthcare facilities and public awareness about kidney disease are very poor in these developing countries including Bangladesh. Many people specially with non-specific clinical features like leg swelling, hematuria, proteinurea and high blood pressure do not seek medical management or not evaluated properly. As a result a number of patients come to seek medical help while they already developed ESRD but they are not aware about their actual condition. These patients we can call incidentalal presentation of CKD-5 or incidentalal presentation of ESKD .

The outcome of ESKD depends on multiple factors like patients co morbidity; physical condition, economical status, country's ability to provide RRT as health care facility etc. Unfortunately the economic condition of the patients and the ability of providing RRT for the citizens of ESKD of the country is very poor in developing countries.¹ The initiation of RRT in developing world is restricted to fewer than a quarter of ESKD patients.² So the outcome of ESKD patients are also not satisfactory and late nephrology referral has been associated with adverse outcomes among ESRD patients.^{3,4} Specially those patients who were not conscious about their failing kidneys the outcome may be poorer.

In the context of Bangladesh the actual data is not available. Though Bangladesh is a hugely populated country, the population is about 160 million . An Indian population-based study determined the crude and age-adjusted ESKD

incidence rates at 151 and 232 per million population, respectively.⁵ If validated in other parts of this region, it would mean that about 24,000-32,000 new patients need RRT every year in Bangladesh. But the health care facilities providing RRT are very limited. Even not available in district level.⁶ We tried to follow up some patients with ESKD who were diagnosed in very late stage for a further period of 3 months to evaluate their outcomes.

Methods

Seventy six patients who were admitted in Unit 2 of department of Nephrology in National Institute of Kidney diseases and Urology, Dhaka during the period of January 2016 to December 2016 and who was diagnosed as incidental ESKD was included in this study.

We included the patients who were diagnosed as ESKD at our hospital and who were not aware of his/her kidney diseases one month prior to Diagnosis .

Any patients with features of obstructive uropathy was excluded from the study. Patients of diabetic nephropathy was also excluded as they are usually remains in regular or irregular follow-up.

The patients were evaluated and managed by giving RRT either in the form of hemodialysis through central venous catheter or intermittent peritoneal dialysis though some patients failed or refused to take any kind of renal replacement therapy . After improving from the acute condition patients were discharged with advice to take regular RRT either in the form of dialysis or renal transplantation.

Outcome

After three months of discharge we tried to take telephonic interview of the patients or any close person of the patient. Patient's present condition, mode of RRT, type of care giving centre, financial source all were asked .

Statistical analysis

We used online calculatorsoup.com and SPSS 22.0 (SPSS Inc. Chicago , Illinois,USA) for statistical analysis . Measures of central tendency (mean) and measures of variability (range, standard deviation) were used to describe continuous and quantitative variables . Similarly, frequencies, percentages and cross tabulations were used to summarize qualitative variables.

Results

A total of 76 patients of late presentation of ESRD cases were included in this study who were admitted in Nephrology unit 2 of National Institute of Kidney Diseases and Urology (NIKDU) from January to December 2016.

Out of all patients 62% were male and remaining were female.

Mean age of the patients were 34.22±13.4 years(14-65 years). Only 3 patients(4%) was found to have cystic kidney disease and the cause of ESKD in other cases could not be

confirmed. Small echogenic kidneys and proteinurea & baseline serum creatinine were very high in all the patients. Mean serum creatinine was 13.56±3.5 mg/dl (8.5 to 20.5). On the other hand all of the patients were anaemic with mean Hb% 7.7±1.55 gm/dl(4.8 to 10.4).

As primary treatment all were offered renal replacement therapy in the form of Intermittent peritoneal dialysis or hemodialysis through temporary vascular access. 36% (27 patients) patients took intermittent peritoneal dialysis and 47% (36 patients) took hemodialysis and other refused to take any form of renal replacement therapy.

After three months 43% patients (33) was found to be dead . Only 5% (4) patients underwent to renal transplantation and 24% patients(18) were taking regular or irregular hemodialysis. 12% patients (9) was on conservative management and other 16% patients (12) did not responded to telephone calls.

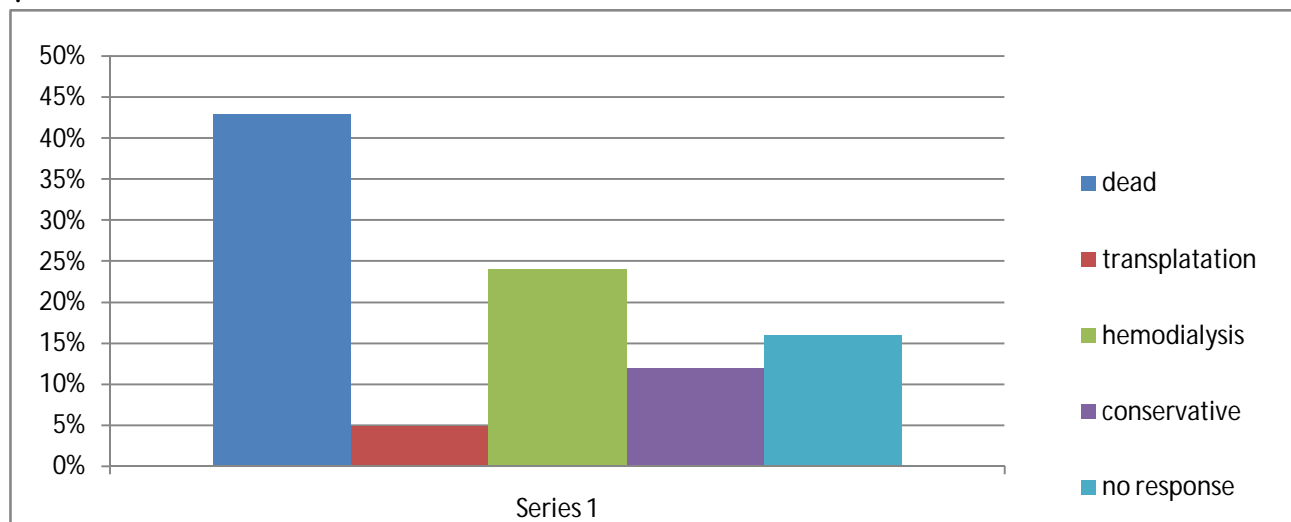


Figure 1. Outcome of ESRD patients after 3 months observation

Discussion

In this study the primary etiology could not be confirmed in most of the cases as they were diagnosed at extreme end of renal function. Among these 76 patients only 3(4%) patients was found to have cystic diseases of kidneys which is very close to the other study of CKD in this subcontinent.⁴

Among these patients 62% were male and other 38% were female. This result is contrary to the study of CKD carried in community level.⁸ This lesser number of female probably is due to social deprivation of female in seeking of higher medical management at such conditions like severe renal failure.

The mean age of this study population is 34.22 ± 13.4 years and this is very much younger than CKD population of USA⁷ but closer to other South Asian study.^{3,5} The probable cause of this younger age is here no cases of diabetic nephropathy is included. As we know usually diabetic patients remains under regular or irregular follow up and to be diagnosed as a case of incidental presentation of ESRD in diabetic nephropathy patients is very unusual.

The base line s. creatinine of these patients during diagnosis was found very high that is 13.56 ± 3.5 mg/dl. This was very close to the study done in Pakistan³ and hemoglobin level was also found so low 7.7 ± 1.55 g/dl and it was also close to the same study.³

As all these patients admitted with end stage renal failure all of them had uremic symptoms along with other complications like electrolyte imbalance or metabolic acidosis. All of the patients were offered renal replacement therapy either in the form of hemodialysis or intermittent peritoneal dialysis. The later were due to lack of sufficient hemodialysis facilities for all patients. A good number (17%) of patients refused to take any kind of renal replacement therapy. This is mainly due to

economical disability of the patients parties. Though there is government subsidy is available in this hospital, good amount of money is to be expensed by the patients parties. A small number of patients refused to take renal replacement therapy due to fear about these modality of treatment.

After three months total mortality of these patients were about 43% and in Nigeria¹ the outcome was worse. But the result is nearer to a study carried out in India.⁹ The Nigerian results are very much older (1989–2007) and facility of renal replacement therapy is poorer to Bangladesh. On the other hand the Indian study was carried out On ESRD patients admitted in ICU and followed up for thirty days.

Among the survived patients about 24% were taking hemodialysis either regular or irregular basis. And only 3% were taking hemodialysis in subsidized government facilities. None of them were getting any kind of financial support from government or any Non-government organization. This data is nearer to the study in India¹⁰ where only 28% patients of ESKD continued renal replacement therapy beyond three months.

5% patients underwent renal transplantation and all of them live related kidneys from their first degree relatives. Two patients surgery was done in a private centre in Bangladesh and one surgery was done in BSMMU. Other patient underwent surgery in abroad.

About 12% patients were not taking any kind of renal replacement therapy at the end of three months. Though all of them were in CKD stage 5 they were taking conservative management.

Other 16% patients did not responded to our phone calls. Their phones found either off or they did not responded after tried for several times.

Conclusion

Advanced CKD presentation as ESKD as well as incidental finding as ESKD are not uncommon in our country and outcome is not so good in these cases. Increased monitoring of renal function, awareness development in population level as well as medical care gives level may improve early detection and management of CKD patients. To improve the outcome of ESKD patients renal replacement therapy should be supported and subsidized by governments, non-governmental agencies and health insurance companies. Renal transplantation specially cadaveric transplantation should be encouraged in those that can support the treatment.

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