

Prevalence and survival rate/period of geriatric CKD stage V on MHD patients at a tertiary care hospital – a single center study

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Abstract

Background: Elderly CKD stage V on MHD patients is with encouraging results at a rural based Medical college and Hospital's Dialysis centre. The median age of patients starting dialysis in UK has increased from 63.9 years in 1998 to 65.5 years in 2005 (2-396). **Material and Methods:** About 105 elderly CKD stage V patients were registered for haemodialysis at a rural based "Dialysis centre" of MNR Medical College and Hospital, Sangareddy, Medak (Dist), Telangana State, India, PIN: 502294, from 5.11.2009 to 31.03.2015. They are of different ages and of different etiologies of Geriatric CKD stage V Age: 60 – 76 years, Sex: 7 Males and 1 Female, Etiology: (i). DM; (ii) Hypertension (iii) AD PKD; iv) Sepsis induced v) Multiple Myeloma and HTN. The prevalence of Geriatric patients among 105 all CKD stage V on MHD patients is 30 in no. i.e. $(30/105)*100 = 28.50\%$. No. of living continued Geriatric CKD stage V patients on MHD is 8. The survival rate of Geriatric CKD stage V on MHD is 87.5% (7/8). They are continued at the survival rate of 87.5% on 31.03.2015. The mortality rate at our dialysis centre all patients included among 105 patients who underwent >7398 HDS is 'ZERO' (0%) percent. This is a great achievement on the part of patient care by the Nephrology Department which includes Nephrologists; Dialysis Technician; Dialysis Nurses and other staff concerned. Meticulous constant observation of the patients and immediate attention of the complication during haemodialysis made this possible. **Results:** The survival rate of Geriatric CKD stage V patients on MHD at our dialysis centre up to 31.03.2015 is in details. All are financially dependent, Male, female ratio – 7:1, Out of 8 – young old – 7, Old old - 1 So, the survival period as on 31.03.2015 of above patients is from 3 months 15 days to 2 years 8 months 10 days.

Keywords: Survival rate; Geriatric CKD stage V patients; MHD.

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INTRODUCTION

To benefit the low-socioeconomic Geriatric as well as non-geriatric CKD stage V patients the Dialysis centre was established on 05.11.2009 at MNR Medical college

and Hospital, Sangareddy. Most of the haemodialyses were conducted under Rajeev Aarogya Sree health scheme run by the Telangana state government, INDIA. Very few patients underwent haemodialysis on payment which was negligible. A total of 105 CKD stage V patients were registered for haemodialysis from 05.11.2009 to 31.03.2015 and >7398 HDs were conducted with '0%' (Zero percent) mortality during haemodialysis. A great achievement. Among 105 CKD stage V patients, Thirty (30) were Geriatric patients. Among (30) Thirty Geriatric CKD stage V on (MHD) "Maintenance haemodialysis" and among them continued (8) eight are surviving and continuing their haemodialysis treatment. The etiology of CKD of them are as follows.

Table 1

| Sr. No. | Age | Sex | No. of Patients | Etiology |
|---------|------------|----------|-----------------|---------------------------|
| 1 | > 75 years | Male | A 1 | HTN |
| 2 | >71 years | Male - 2 | B 1 | i) HTN |
| | | | C 1 | ii) DM, HTN |
| 3 | > 66 years | Male - 2 | D 1 | i) DM, HTN |
| | | | E 1 | ii) HTN |
| | | | F 1 | i) HTN + Multiple Myeloma |
| 4 | > 60 years | 2 Male | G 1 | ii) HTN + BPH |
| | | 1 Female | H 1 | i) HTN |

It is very difficult to counsel these rural based Geriatric CKD stage V patients regarding drug regimen; salt-restriction; water-intake; diet and other preventive aspects of health. These patients because of their ignorance and financial condition are unable to take proper diet and drug as per the need. Sometimes they become irregular.

Adherence to drugs and diet and water intake and measurement of urine-output is a difficult task for them. But, by our departmental effort all our patients are doing well. Their status at the time of registration for HD and now areas follows.

Table 2

| Sr. No | Patient Age | At the time of Registraton | Social Status | Complication developed | Now as on 31.03.2015 with remark |
|--------|-------------------------------------------------------|-----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| 1 | A- Y.Rachappa | Wt- 50 kgs B.V- 62 mg/dL S.Cr. 3.0 mg/dL Hb% - 8 gm/dL General wellbeing – poor | Retried Teacher | No further complication | Wt – 49 kg Hb% - 8.8 gm/dL B.U – 56 mg/Dl Scr – 2.0 mg/dL General well being – Good |
| 2 | B – B. Shankar | Wt. 52 kg Hb% - 7.8 gm/dL B.U – 331 mg/dL S.cr – 12.4 mg/dL General wellbeing - poor | Agricultuallaboure r poor | Ascitis, TB Abd. on ATT drugs | Wt. 53.00 kg Hb% - 10.0 gm/dL B.U – 34 mg/dL S.cr – 1.1 mg/dL General well being – Better |
| 3 | C – P. Narayana | Wt. 60 kgs Hb% - 7.8 gm/dL B.U – 61 mg/dL S.cr – 5.4 mg/dL General well being – poor | Farmer and rich. Literature (Secondary School Education) | Pul. Koch’sand on ATT drugs | Wt. 56.30 kgs Hb% - 9.0 gm/dL B.U-60mg/dL S.cr – 2.8 mg/dL General wellbeing – Better |
| 4 | D K. Galappa | Wt. -72 kg Hb% - 10.1 gm/dL B.U –60 mg/dL S.cr – 3.6 mg/dL General wellbeing - good | Farmer middle class family | Swelling Rt.Upper limb | Wt. – 65.55 kg Hb% - 8.8 gm/dL B.U – 19 mg/dL S.cr – 0.6 mg/dL General wellbeing – good |
| 5 | E G. Sailu | Wt. – 45.6 kg Hb% - 7.5 gm/dL B.U –129 mg/dL S.cr – 6.9 mg/dL General wellbeing - worst | Low socio economic group Educated (10 th class) | No further complication | Wt. -40.90 kg Hb% - 9.2 mg/dL B.U –71 mg/dL S.cr – 2.8 mg General wellbeing - Good |
| 6 | F D. Balaiah | Wt. – 41kg Hb% - 4.3gm/dL B.U –108mg/dL S.cr –9.3mg/dL General Wellbeing -Worst | Low socio economic Group | No further complication | Wt. -41.30kg Hb% - 8.5gm/dL B.U –63mg/dL S.cr – 2.6mg/dL General wellbeing –Good CUE-Protein-Absent Glucose-Absent |
| 7 | G M.Durgaiyah *expired at home on 26.02.2015 | Wt. -52kg Hb% - 7.1gm/dL B.U –96mg/dL S.cr – 4.8mg/dL General wellbeing -Poor | Low socio economic Group Illiterate | Patient with Folley’s catheter intact against Medical advice. No further complication | Wt. – 52.85 Hb% - 10.0gm/dL B.U –35mg/dL S.cr – 2.0mg/dL General wellbeing - Better |

| | | | | | |
|---|-----------------|--------------------------------------------------------------------------------------------|-------------------------------------------|----------------------------|----------------------------------------------------------------------------------------------------------|
| 8 | H G.Lingamma | Wt. -35kg Hb% - 4.0gm/dL B.U -287mg/dL S.cr - 9.7mg/dL General wellbeing -Poor | Low socio economic Group Illiterate | No further complication | Wt. - 34.25 kg Hb% - 7.0gm/dL B.U -16.0mg/dL S.cr - 0.4mg/dL General wellbeing - same status |
|---|-----------------|--------------------------------------------------------------------------------------------|-------------------------------------------|----------------------------|----------------------------------------------------------------------------------------------------------|

MATERIAL AND METHODS

Total no. of CKD stage V patients for Renal replacement therapy as maintenance haemodialysis is 105. Out of them no. of Geriatric CKD stage V patients are 30 (Thirty). These Geriatric patients at our dialysis centre were given "Maintenance haemodialysis therapy along with supplementation of Inj. Erythropoietin and Inj. iron sucrose. The vascular accesses - Internal Jugular vein access and Av fistula. As per the need "Transfusion of Blood" was given. There were no mortality during dialysis session in the centre. Some have left the centre because of various reasons. All the Geriatric CKD stage V patients on MHD are carefully examined after taking detailed history and their financial, social and psychological background. All these patients are undergoing MHD under Rajiv Aarogya Sree health scheme by TELANGANA state Government free of cost to the patients. I have followed the "GUIDE LINES" given by THE Forum of Nephrologists of India given in the Indian Journal of Nephrology, vol.22, supplementary issue dated December 2012. When registered the above GERIATRIC CKD Stage V on MHD patients, were almost at a critical stage. After registering at MNR Medical college Hospital Dialysis centre I took meticulous care by all means and prescribed dialysis dose. Gradually they recovered from the critical stage and now they are doing well with MHD at our dialysis centre. All the patients are subjected to cardiology check-up; and pulmonologist as per the need.

INVESTIGATIONS

All the patients were screened and got all the possible and necessary investigations at our dialysis center including viral screening, CT, MRI scanning were also done to the necessary patient. Monthly investigation for Hb%, B.U., SCr and SE conducted. 3 monthly LFT; Lipid profile etc. and other as per the guide lines given by the forum of Nephrologists of India. All the Geriatric CKD stage V on MHD patients were dyslipidemic and it was corrected. The above are normo- proteinemic.

DISCUSSION

The proportion of 'old' elderly i.e. old old, is increasing for haemodialysis (2-396). These patients are enabled to choose dialysis modality best suited to their individual social circumstances. The advantages of haemodialysis in Geriatric patients are:

1. Independent of patient ability
2. Less time on treatment provides social support structure (2-397)

In USA there is a 57% increase in no. of patients >80 years old starting dialysis (2-396). In India also there is increase in no. of Geriatric CKD stage V patients opting for haemodialysis but there were no proper data available. The benefits of haemodialysis for elderly dependent patients with ESRD, who often have multiple extra renal co-morbidities have been questioned (Ref. 1). The prospectuses for rehabilitation in such patients tend to be slim and prognosis is often poor. In patients aged >75 years when corrected for age, high co-morbidity and diabetes, the survival advantage from RRT was approximately 4 months which is not significant (Ref. 1)..

From: Literature

For elderly individuals who progress to ESRD, haemodialysis is often a valuable treatment option. Although haemodialysis is a life-sustaining therapy and extends life, it may also create, increase, or prolong suffering in selected subgroups of Geriatric patients. Older patients generally suffer from a large number of co-morbidities including coronary heart disease, left ventricular hypertrophy and valvular heart disease - compared to younger ones, which increases the risk of complications on RRT and can significantly affect patient's survival. For instance, these co-morbidities may increase the risk of intradialytic hypotension, which in turn causes a premature stopping of dialysis sessions, a decreased dialysis adequacy and finally increases the risk of mortality. In older haemodialysis patients malnutrition is also more prevalent due to inappropriate dietary intake, anorexia, malabsorption; social isolation and depression high rate of hospitalization due to infection (often vascular access infection) increases frailty in the elderly and accelerates functional decline. (4/85). Life expectancy of patients aged 75 years or older who begin dialysis is significantly shorter compared with patients aged 50-60 years, particularly if they have low weight or require hospitalization. Furthermore, Jassal *et al.* reported that as patients aged 80 years or older, of whom 78% were self-sufficient before starting haemodialysis, 33% died and only 28% were independent after 6 months (5/87).

Survival rates

UK Renal registry data shows the five year survival after starting renal replacement therapy is: * > 90% for 18 - 34

year olds. > 70% for 45-54 years olds. >30% for 65-74 year olds. < 20% for > 75 year olds (2-566).

In my study at our dialysis centre

In this study only 8 Geriatric CKD stage V patients on MHD out of 30 registered (out of 105 total CKD patients registered) are taken as they are continuing at our dialysis centre. The period of study is 5 years. out of 8 – 7 males and 1 female

Age

Ranges from 60 to 76 years. Only young old CKD stage V are 7. Old old CKD stage V is 1. All these patients are financially dependent and most of these are undergoing HD under Rajeev Arogya Sree health scheme run by Telangana state Govt. free of cost to the patients. All able

to do ADA.H/o smoking in (4) four patients and H/o smoking with alcoholism in (2) two patients. Their drug regimen; salt restriction, water intake is not up to 100%. One patient (B) developed ascitis and Abd, TB and is on ATT drugs. One (C) patient developed Pul. Koch’s and on ATT drugs. At one stage all of them are of dyslipidemia which is corrected over a period of time. The care givers are of satisfactory service. One (B) patient comes alone for HD. Blood transfusions are given as per the need. But, no patient was offered a kidney for transplantation – by their relatives. There are still living and coming from far away villages. survival rate of continued 8 patients is 87.5% (7/8) The survival periods are as follows.

Table 3

| Sr. No | Patient | Diagnosis at present | Survival period as on 31.12.2014 |
|--------|---------|----------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| 1 | A | HTN – CKD stage V on MHD | 2 years 8 months and 10 days i.e. 32 months and 10 days |
| 2 | B | HTN – CKD stage V on MHD __ Ascitis, TB, Abd, on ATT drugs | 2 years 7 months and 4 days i.e. 31 months and 4 days |
| 3 | C | DM, HTN – CKD stage V on MHD with pul. Koch’s on ATT drugs | 1 year 11 months and 10 days i.e. 23 months and 16 days |
| 4 | D | DM, HTN – CKD stage V on MHD with swelling of upper limb due to AV fistula | 1 year 11 months and 11 days i.e. 23 months and 11 days |
| 5 | E | HTN – CKD stage V on MHD LRT | 1 year 7 month and 11 days i.e. 19 months and 17 days |
| 6 | F | Multiple, Myeloma; HTN – CKD stage V | 11 months 15 days |
| 7 | G | HTN – CKD stage V on MHD | 1 year 4 months and 10 days i.e. 16 months and 10 days .expired at home on 26.02.2015 |
| 8 | H | HTN – CKD stage V LRTI | 3 months 15 days only. |

So, the period of **survival as on 31.03.2015 is from 3 months 15 days to 32 months and 10 days**. All these patients when registered are of poor G.C. Now with regular schedule of haemodialysis and supplement with Inj. Erythropoietin and Inj. Iron sucrose and diet counselling etc., all are doing well. Their appetite is improved and nobody is having the Nausea and vomiting sensation. Only thing is senile changes are seen in all the patients as per ageing. Eg. Cataract, osteoarthritis, skin folds etc. The care givers of the patients did not want to donate blood to their beloved patients. Then there is no question of donating their kidneys to their patients. This is due to ignorance and selfish attitude of the care givers. This should be changed.

CONCLUSION

In the beginning i.e. at the time of registration for MHD all the 8 (7 male and 1 female) patients are in critical condition with breathlessness, congestion signs. Gradually on MHD they were brought to comfortable condition with all the best patient care. So their survival period is increased by attending respiratory infection, cardiac complication and dyslipidemia and hypo-

proteinemia. Correction of anaemias given importance by proper administration of Inj. Erythropoietin and Inj. iron sucrose; oral hematinic and transfusion of blood as per the need. The survival period at present being all the Geriatric CKD stage V on MHD patients alive at our dialysis center on (31.03.2015) as follows. (1) patient (A) – 32 months and 10 days; 2. Patient (B) – 31 months and 4 days; 3. Patient (C) – 23 months 16 days; 4. Patient (D) – 23 months and 11 days 5; Patient (E) – 19 months and 11 days; 6. Patient (F) – 11 months and 15 days; 7. patient and most recent. (H) – 3 months 15 days only. Counselling about MHD, drugs, diet, water intake and kidney transplantation is given to all the Geriatric CKD stage V on MHD patients.

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