A meta analysis of haemodialyses at a rural center of MNR Medical College Hospital

Nagineni Bhaskar Rao*, R. Rajmallaiah**

*Assistant Professor, **Emeritus Professor, Department of Nephrology, MNR Medical College and Hospital, Sangareddy, Medak, Telangana, INDIA.
Email: drnagineniraobhaskar@gmail.com

Abstract
Objective: To study the various complications of Haemodialysis at a Rural health center. Methods: This is a meta analysis of 1817 haemodialyses conducted at rural based dialysis centre of MNR Medical College and Hospital, sangareddy, on 46 CKD Stage-v patients, to evaluate the incidence of complications, causative factors i.e. etiology etc during the period of 7-11-2009 to 18.8.2011. Results: In this study male and female ratio is 2:1. Age ranges from 16to 65yeras. Most of the CKD stage-v patients on HD were belongs to low-socioeconomic group and came for haemodialysis under RAJIV AAROGYASRI Health scheme by the Govt. Etiology: Hypertension 55%, Diabetes mellius 37% other 8%.Incidence of common complications are hypotension, chills and rigors, nausea and vomiting, chest pain, fever etc. The common complications occurredin the beginning and over a period of times. After the HDS were uneventful. Conclusion: Intermittent- haemodialysis is the most common renal replacement therapy for CKD Stage-v patients and critically ill ARF patients also. Relatives did not come forward to donate their kidneys or blood to their CKD Stage-v MHD patients. Keywords: Haemodialysis, CKD Stage-V

INTRODUCTION

Incidence of complication sarecommon during the conduction of haemodialyses1. The dialysis center of MNR Medical College and hospital, set up in a rural area where the CKD stage-v patients are illiterate and ignorant which could not follow the diet advices drug regimen and even HD schedule. To evaluate the incidence of the complications, etiology, geography condition etc. This analysis was under taken. During haemodialysis, large volumes of blood are exposed to components of the extra – corporeal circuit, including the dialyzer and other foreign substances related to the manufacturing and sterilization process. This interaction between the patients’ blood and extracorporeal system can lead to various adverse reactions, which manifest as complications ranging from subtle to severe and fatal. The signs and symptoms are made up of combinations of angioedema, dyspnoea, chest tightness, sneezing, lacrimation, skin flushing; parasthesia burning sensation, nausea, vomiting, abdominal pain. These are called dialysis reactions. Arrhythmias, pericardial, headache, itching are other complications2

MATERIAL AND METHODS

46 CKD Stage-v patients were studied in this analysis for the incidence of common complications that occur during the conduction of haemodialysis.

RESULTS

Geographic Area: All the CKD Stage-v patients undergone HDS at this centre at and around Medak district (42/46)-91.30% and two patients are from other

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districts –Nizamabad and Nalgonda and two patients are from other states –one from Karnataka and another from Maharashtra.

**Mode of getting HDs:** Most of the patients undergone HDs-no 40/46=86.95% under Rajiv Arogyasri and 6/46=13.043% on payments

**Sex:** Male: Female ratio is 31:16 approximately 2:1

**Age:** from 16 years to 65 years

**Age Break-up:** (1) 16-25-6 patients; (2) 26-50 yrs-29 patients (3) 51-65-11 patients, total46

**Machines:** Two (2) Gambro machines-model-AK 96

**Water Supply:** R.D water plant

**Literacy Status:** (1) Illiterates-15(32%); (2) primary education-12(26%); (3) H.S.C-16 (34%); (4) graduates-4(8%)

**Socio-economic status:** most of the patients belong to low-socio-economic group

**DISCUSSION**

KD stage-V patients came for HD to our dialysis centre with the following presenting symptoms

1. Swelling of the face and feet
2. Nausea and vomiting
3. Loss of appetite
4. Breathlessness
5. Loss of weight and
6. Passing scanty urine etc.

The ethological factors among the above 46 CKD stage-v Patients are as follows

1. Hypertension (55%)
2. Diabetes mellitus nephropathy (37%)
3. Post natal acute kidney injury (2%)
4. ADPKD (4%)
5. Chronic glomerulonephritis CGN (2%)

The incidence of complications at our dialysis centre on CKD stage-v patients during the Haemodialysis include-hypotension, chills and fever, cramps, chest pain, breathlessness, nausea, vomiting, itching, headache etc

When compared to the literature available incidence of some of the complications like chills and rigors, fever are the same. The table and graphs are given below³.

**Table 1: Incidence of Complications**

<table>
<thead>
<tr>
<th>Complications</th>
<th>Hypotension of Dialyses</th>
<th>Chills, Rigors and Fever</th>
<th>Cramps</th>
<th>Chest pain</th>
<th>Vomittings</th>
<th>Hypoglycemia</th>
<th>Breathlessness</th>
<th>Bleeding perrectum and diarrhoea</th>
<th>Hypertension</th>
</tr>
</thead>
<tbody>
<tr>
<td>MNR</td>
<td>0.33%</td>
<td>0.91%</td>
<td>0.22%</td>
<td>0.22%</td>
<td>0.71%</td>
<td>0.11%</td>
<td>1.20%</td>
<td>0.05%</td>
<td>0.05%</td>
</tr>
<tr>
<td>Hand Book</td>
<td>20%</td>
<td>0.99%</td>
<td>5%</td>
<td>2%</td>
<td>5%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


Other complications that occur during haemodialysis are heparin associated thrombocytopenia, bleeding diathesis, cerebrovascular accident⁴ etc. Muscle cramps occur up to 20% with dialysis treatment. Hemolysis and airemborsim are the other complications of haemodialysis⁵,⁸.

**Co-morbid Conditions**

Obesity, RHD, LRTI, Concentric LVH, severe systolic dysfunction, severe anaemia, pleural effusion, abdominal pain⁶. Weight gain/loss/no change: weight gain-22%, weight loss-26% and no change in 52% of CKD stage-v patients on MHD.

**Counselling for Diet**

Health care and renal transplantation⁷. All the eligible patients were counseled for renal transplantation. One CKD Stage-v patient underwent renal transplantation. All the CKD Stage-v patients who underwent HDs were counseled regarding diet, drugregimen and daily health care and change of life style.

**CONCLUSION**

46 CKD stage-v patients from rural base got HDs done at our dialysis centre mostly under Rajiv Aarogyasri. In the beginning patients got vomittings chills and rigors. Later
HDs were conducted uneventful and 50% are the attending to their routine work on NON-HD day. But in spite of repeated counseling and showing exemplary results of post transplant recipients and donors, most of family members are not willing to donate their kidneys to their beloved ones because of ignorance.

REFERENCES

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