

## Pattern of Intradialytic Adverse Events During Maintenance Hemodialysis-A Cross Sectional Observational Study In A Rural Teaching Hospital In Karnataka.

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### Abstract:

**Aims:** To assess the pattern of untoward effects during maintenance haemodialysis.

**Methods:** This cross sectional observational study was done in Adichunchanagiri medical college and research centre. B.G.Nagara 100 subjects on maintenance haemodialysis were included in this study.

**Results:** Out of the total subjects 23% had hypotension, 20% had muscle cramps, 18% had dialysis disequilibrium syndrome features, 5% each had headache and itching and 3% had fever and chills.

**Conclusion:** As many as three fourths of subjects on maintenance haemodialysis had one or other untoward effects.

**Keywords:** Dialysis disequilibrium syndrome (DDS), End stage renal disease (ESRD), Maintenance HemoDialysis (MHD), Quality of life (QOL), Simple random sampling (SRS)

### Background and objectives

Complications during maintenance hemodialysis<sup>1</sup> affects the QOL and make the patient non compliant for subsequent visits. This study is an attempt to identify these and make the procedure more patient friendly. If the healthcare professionals are able to identify the likely complications beforehand and institute remedial measures at the earliest it will go a long way in making the procedure safe. MHD is a life saving treatment modality but the associated adverse events make the procedure less subject friendly.

**Keywords:** Dialysis Disequilibrium Syndrome (DDS), End stage renal disease (ESRD), Maintenance hemodialysis (MHD), Quality of life (QOL), Simple random sampling (SRS)

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### I. Introduction:

Maintenance hemodialysis was first started in India in 1962<sup>2</sup>

As the life expectancy of people has increased from 48.3 years in 1960 to 66 years in 2016 subjects with chronic kidney disease are surviving longer. More and more patients with diabetes, hypertension and kidney related diseases are surviving longer hence the need to make MHD more safe with less adverse events.

**Materials and methods:** The study population consisted of all subjects who underwent MHD in Adichunchanagiri Institute of Medical Science B.G.Nagar between January 2020 and June 2020. After obtaining approval from ethical committee and approval from the subject, as per protocol which consisted of demographic variation, comorbid condition, duration of MHD were noted.

**STATISTICAL ANALYSIS:** The statistical tools used in this study are descriptive statistics and z test using SPSS software

### II. Results:

The most common complication observed during the study was hypotension followed by muscle cramps, DDS, headache, itching, fever and chills in descending order as shown in Table 1. The demographic features are given in table 2. The causes of ESRD are as given in table 3.

**Table : 1**

Mean age in years	53+9
Female:Male	32:68
Duration of MHD in months	22+4

**Table : 2**  
**Causes of ESRD**

Diabetic Nephropathy	35%
Hypertension Nephrosclerosis	12%
Glomerulonephritis	10%
Tubulointerstitial Nephritis	17%
Unknown causes	26%

**Table : 3**  
**Complications during MHD**

Hypotension	23%
Muscle cramps	20%
DDS	18%
Headache	5%
Itching	5%
Fever and Chills	3%

### III. Discussion:

In the present study 100 subjects undergoing MHD were evaluated for intradialytic complications. Our study found hypotension, muscle cramps, DDS, headache, itching, fever and chills as untoward effects in descending order.

Hypotension was found in 30.1% subjects in a study done by Prabhakar et al<sup>3</sup> and it was 27.2% in another study done by Bartoula et al<sup>4</sup>. Muscle cramps were observed in 20% subjects in our study. Similar incidence was noted in a study by Prabhakar et al. The incidence of DDS was 18%. In other studies the components of DDS like nausea, vomiting, hypertension were mentioned separately and a similar trend was noted. In a study by Okara et al<sup>6</sup> the incidence of hypertension was 30.8% and it was 45.3% in a study by Okapa H.O. et al<sup>7</sup>. In a study by S.M. Raja et al<sup>8</sup> the incidence of itching was 4.5% and fever and chills less than 3%.

### Results:

The most common complication observed during the study was hypotension followed by muscle cramps, DDS, headache, itching, fever and chills in descending order as shown in Table 1. The demographic features are given in table 2. The causes of ESRD are as given in table 3.

### Limitations Of The Study:

The study population consisted of subjects on MHD in a single health care facility.

### IV. Conclusion:

Over 3/4ths of patients undergoing MHD had some complications during the procedure. Further studies are needed to pinpoint those groups of patients who are more prone to develop untoward effects and to make the procedure more subject friendly.

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