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A CROSS SECTIONAL STUDY TO SLOW DOWN THE PROGRESSION OFHYPERTENSION AND DIABETES MELLITUS INDUCED CHRONIC KIDNEY DISEASE

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ABSTARCT

The **kidneys** are two reddish-brown bean-shaped organs found in vertebrates. They are located on the left and right in the retroperitoneal space, and in adult humans are about 12 centimetres (4+1⁄2 inches) in length. They receive blood from the paired renal arteries; blood exits into the paired renal veins. Each kidney is attached to a ureter, a tube that carries excreted urine to the bladder. In humans, the kidneys are located high in the abdominal cavity, one on each side of the spine, and lie in a retroperitoneal position at a slightly oblique angle. The asymmetry within the abdominal cavity, caused by the position of the liver, typically results in the right kidney being slightly lower and smaller than the left, and being placed slightly more to the middle than the left kidney. The left kidney is approximately at the vertebral level T12 to L3, and the right is slightly lower. The right kidney sits just below the diaphragm and posterior to the liver. The left kidney sits below the diaphragm and posterior to the spleen. Ontop of each kidney is an adrenal gland. The upper parts of the kidneys are partially protected by the 11th and 12th ribs. Each kidney, with its adrenal gland is surrounded by two layers of fat: the perirenal fat present between renal fascia and renal capsule and pararenal fat superior to the renal

fascia. Objectives: To forestall the unusual degrees of HTN and DM levels and retard the movement of CKD. This can be accomplished by appropriate adherence of recommended prescriptions and keeping up with the reasonable way of life. To keep up with the bp focus at 120/80 mm hg. To keep up with the fasting glucose levels at 99mg/dl or according to the typical or consistent levels of the patien To keep up with the post prandial glucose levels exceptionally in grown-ups from 90-130mn/dl. to ensure that the patient is chipping away at way of life changes. **Methodology:** This is a cross sectional review with the target of dialing back the movement of persistent kidney sickness by managing the unusual upsides of hypertension and diabetes mellitus in patients who were introduced to yashoda Hospital. Subsequent to taking the consent from the ethical committee, the review has been led cross sectionally. In the wake of getting authorization to get to the patient's information from the case sheet documents or electronic clinical records, every one of the qualified members information will be gathered in information assortment structure which included segment subtleties like age, gender, weight, height, body mass index(BMI), body surface area(BSA), performance status (ECOG) alongside the accompanying laboratory parameters - complete blood picture (CBP), liver function tests (LFT), serum creatinine values, biopsy, CCGT abdomen, X-ray pelvis, PET - CT scans and other imaging reports will be assessed to evaluate the patient improvement Way of life alterations is the essential endpoint. Auxiliary endpoint remembers changes for treatment like expansion or expulsion of medications, changing the measurements and adjusting the dose routine. Patients are given directing about their way of life alterations which incorporate standard activity, ideal eating regimen as per their laboratory parameters of electrolytes, decrease of salt admission, required admission of water, eating new leafy foods, performing yoga, reflection meetings and lively strolls everyday, likewise about prescription adherence. **Results**: This study identifies that male patients (51%) are usually affected with hypertension or Diabetesmellitus induced CKD when compared to women patients (38%). By assessing the regular medication adherence and shifting the lifestyle habits to improve the quality of life, the progression of CKD can be usually slowed down. Out of total sample size it was found that 39% subjects with HTN and DM induced CKD have achieved the target of slowing down the progression or CKD whereas the remaining 11% have failed with few complications.

KEYWORDS: Hypertension, Diabetes Mellitus, End stage renal disease (ESRD), Renal failure, Chronickidney disease, Progression of CKD.

I. METHODOLOGY

Study Site

Multispecialityhospital (yashoda hospitals, secundrabad, hyderabad)Study design:it is a cross sectional study Studyperiod (6months)Study criteria:

Inclusion criteria

- Patients of age group above 18 years who have high blood pressure and Diabetes mellitus.
- All patients with either AKI or CKD
- Patients willing to take patient counselling regarding their lifestyle
- Patients able to abide by the protocol throughout the study, including treatment, visits, scheduled examinations and follow up
- Patients who have abnormal haemoglobin (<10g/dl) and platelet count (< 100000 per cubicmetre) and renal function (creatinine > 1.2 mg/dl) or creatinine clearnace (< 30 ml /min) are included in this study.

Exclusion criteria

- Patients who have got renal transplantation are excluded.
- Patients under the age of 18 years are not included
- Psychiatric illness compromising understanding of information or completion of study
- Patient diagnosed with systematic lupus erythematosus (SLE) are not considered because ofthe chances of having other complicated manifestations such as skin lesions and liver damages in them.

Sources of data

The data including demographics, past medication history, personal history, family history andother relevant data was collected from:

1. Patient data collection form.
2. Interviewing Patients and his /her attenders about daily activities of patients,
3. Questionnaires
4. Treatment charts
5. Patient case sheets.

II. DESIGNING THE DATA COLLECTION FORM

A suitable data collection form was designed to collect, document and analyze the data. Data collection form included the provision for collection of information related to demographic

details of the subjects (name, age, sex, personal history, occupation, family history), past medical history, diagnosis, investigations drugs prescribed, contact details and other relevant information.

III. STUDY PROCEDURE

- The study team has visited the study site for five days a week.
- Patients meeting inclusion criteria were selected for the study.
- The patient was explained in detail about the study and asked to provide the inform consentform.
- All the relevant patient data was collected from the patient and documented in a suitably designed data collection form.
- Each patient then assessed for the stages of HTN and DM induced CKD and also the severity of the disease.

IV. METHODOLOGY

This is a cross sectional review with the target of dialing back the movement of persistent kidney sickness by managing the unusual upsides of hypertension and diabetes mellitus in patients who were introducedto yashoda Hospital. Subsequent to taking the consent from the ethical committee, the review has been led cross sectionally. In the wake of getting authorization to get to the patient's information from the case sheet documents or electronic clinical records, every one of the qualified members information will be gathered in information assortment structure which included segment subtleties like age, gender, weight, height, body mass index(BMI), body surface area(BSA), performance status (ECOG) alongside the accompanying laboratory parameters

- complete blood picture (CBP), liver function tests (LFT), serum creatinine values, biopsy, CCGT abdomen, X-ray pelvis, PET - CT scans and other imaging reports will be assessed to evaluate the patientimprovement.

Way of life alterations is the essential endpoint. Auxiliary endpoint remembers changes for treatment like expansion or expulsion of medications, changing the measurements and adjusting the dose routine.

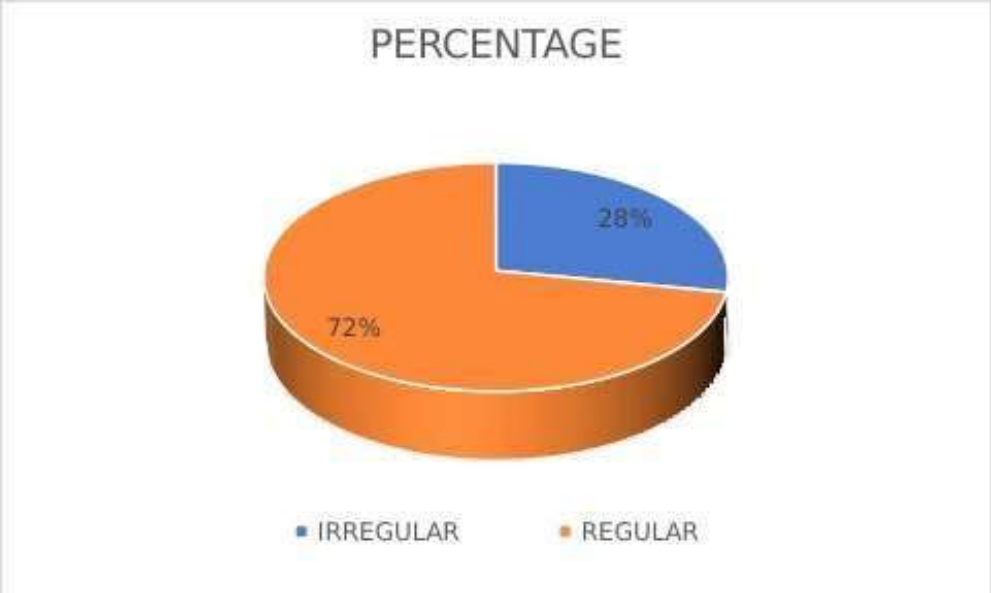
Patients are given directing about their way of life alterations which incorporate standard activity, ideal eating regimen as per their laboratory parameters of electrolytes, decrease of

salt admission, required admission of water, eating new leafy foods, performing yoga, reflection meetings and lively strolls everyday, likewise about prescription adherence.

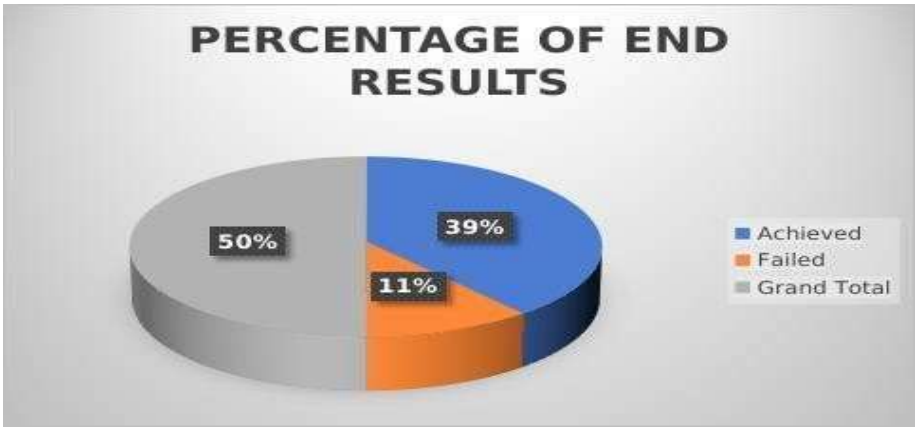
V. RESULTS

DISTRIBUTION OF STUDY SUBJECTS BASED ON MEDICATION ADHERENCE

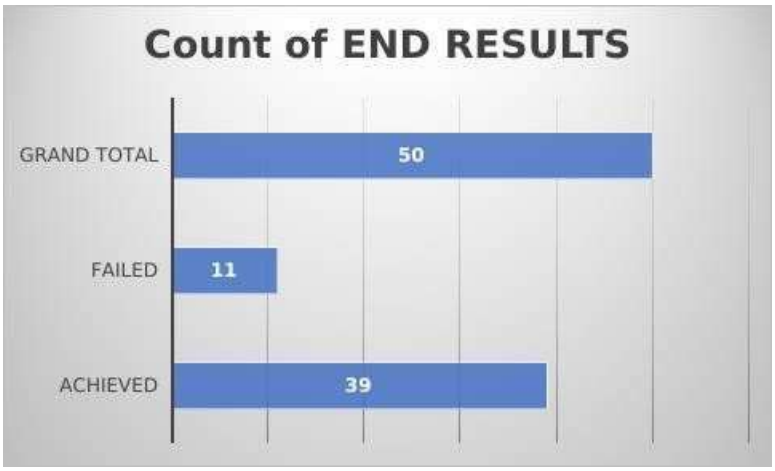
MEDICATION ADHERENCE	Count of MEDICATION ADHERENCE	PERCENTAGE
IRREGULAR	14	28%
REGULAR	36	72%
Grand Total	50	100%



LIFESTYLE MODIFICATIONS	Count of LIFESTYLE MODIFICATIONS	PERCENTAGES
MAINTAINED	33	66%
NOT MAINTAINED	17	34%
Grand Total	**50**	**100%**



- Achieved - Observed very slow progression of CKD
- Failed - Rapid progression of chronic kidney disease



VI. DISCUSSION

A sum of 50 patients (sample size) that incorporates all kinds of pe the people who fulfilled the inclusion criteria were chosen for the study over the span of research, among the complete population of 50 the number of men and women are given in the TABLE 1. From the table obviously the quantity of female patients is more than the male patients. i.e., 52% of female patients. Subsequently, during the review time frame it was observed that females are generally impacted with CKD than males. In this we found that there are 58% people with stage 1 HTN and 42% with stage 2 HTN, which indicates the sample size contains the people who are majorly prone to the progression of CKD. From this we observed that there are 34% of people with stage 1 and 36% of people with stage 2 and 30% with stage 3 of diabetes mellitus which indicates that the entire population of the study is mostly vulnerable for CKD progression. Triple therapy is given on the basis of the combination of various drugs to the combination of different diseases. In our case, we had to consider CKD with hypertension and Type II diabetes mellitus. The calculated percentages of the diseases RCKD with hypertension or of 34% CKD with type two diabetes mellitus R of 36% and CKD with type 2 diabetes mellitus and hypertension or 30% Based on these percentages, all the population have been given the ARBs, CCBs and TZDs accordingly. Medication adherence is mandatory for slowing down the progression of CKD at the long run, medication adherence has been estimated by using MMAS questionnaire from which we got to know that thereare 72% of people who are regular with medication adherence and 28% of the people are irregular. Lifestyle modifications play a very crucial role in any disease's progression. Salt

reduction, physical exercise and adequate water intake have been suggested for most of the patients, in which 66% of the people achieved to maintain their lifestyle modifications accordingly, where as 32% of the people have failed to maintain their lifestyle changesFrom the above data collected and the result obtained, it is evaluated that the progression of CKD has been slowed down in 33% of CKD with hypertension patients. 41% of CKD with type two diabetes mellitus, and 26% of CKD with type two diabetes mellitus and hypertension. On overall 50 sample size, 78% has achieved to slow down the progression of ckd usually whereas 22% have failed to manage the progression.

VII. CONCLUSION

The obtained data has been entered into MS EXCEL 2010. Quantitative variables had been summarized using descriptive statistics (number of observations, percentages, mean standard deviation (SD)). The data had been statistically analyzed using statistical package for the social sciences (SPSS) software and will be represented as graphs, pie diagrams and bar graphs.

The triple therapy given to patients which incorporates the ARBs (Angiotensin receptor blockers),CCBs (Calcium channel blockers) and thiazide diuretics (TZD) are going to make the movement of CKD exceptionally suppressed or even totally smothered in beginning stages. Lifestyle modifications directed in patients with CKD generally center around objectives and planning, feedback and checking and education.

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