Current Status of the Implication of the Clinical Practice Pattern in Hemodialysis Prescription in Regular Hemodialysis Patients in Egypt (Qalyubia)

THESIS

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List of abbreviations

AV	:	Arteriovenous
CAPD	:	Continuous Ambulatory Peritoneal Dialysis
CHOIR	:	Correction of Hemoglobin and Outcomes in Renal insufficiency
CKD	:	Chronic Kidney Disease
CMB	:	Calcium Mass Balance
CVD	:	Cardiovascular Disease
D Ca	:	Dialysate Calcium concentration
DOPPS	:	Dialysis Outcomes and Practice Patterns Study
DOQi	:	Dialysis Outcome Quality initiative
eKt/V	:	Equilibrated Kt/V
ERA/EDTA	:	European Renal Association-European Dialysis and Transplantation Association
ESAs	:	Erythropoietin Stimulating Agents
FDA	:	Food and Drug Administration
FGF	:	Fibroblast Growth Factor
GraDe	:	Grades of recommendation assessment, Development, and evaluation
HD	:	Hemodialysis
HDF	:	Hemodiafiltration

iCa	:	Ionized calcium
IHDF	:	Intermittent on-line Hemodiafiltration
IL	:	Interleukin
iPTH	:	Intact Parathyroid Hormone
LVH	:	Left Ventricular Hypertrophy
MBD	:	Mineral and Bone Disorder
MIA	:	Malnutrition-Inflammation Atherosclerosis
MPO	:	Membrane Permeabilities Outcomes
nPCR	:	Normalized Protein Catabolic Rate
PEM	:	Protein-Energy Malnutrition
PTH	:	Parathyroid Hormone
stKt/V	:	Standard Kt/V
SRI	:	Solute Removal Index
β_2m	:	beta-2-microglobulin
K/DOGI	:	Kidney Disease Outcome Quality Intiative.
ADPKD	:	Autosomal Dominant Polycystic Kidney Disease
SLE	:	Systemic Lupus Erythromatosis
GN	:	Glomerulonephritis
PVD	:	Peripheral Vascular Disease
TNF	:	Tumour Necrosis Factor
CARI	:	Australian and Newzland Society Of Nephrology
NKF	:	National Kidney Foundation

BMI	:	Body Mass Index
stKt/V	:	Standard Kt/V
SRI	:	Solute Removal Index

Introduction

Hemodialysis (HD) is the routine renal replacement therapy for more than 300,000 patients in the United States who have reached end-stage renal disease. The goals of HD are straightforward and include resotring the body's intracellular and extracellular fluid environment and accomplishing solute balance by either removal from the blood into the dialysate or from the dialysate into the blood. Optimal care of the patient receiving long-term HD requires appropriate prescirption according to patient- and device-dependent variables ***(Ikizler and Schulman, 2005).***

Patients who have ESRD and are on HD are characterized by an exceptionally high mortality rate compared with the general population ***(Ajiro, 2007).***

The state of health of individuals with kidney failure who are initiated on dialysis, and therefore their earlier care, is a major determinant of survival and wellbeing on maintenance dialysis, and that persons with kidney disease are more likely to die from cardiovascular disease than to reach dialysis; hence, the urgency to focus on early detection and treatment in all high-risk populations ***(Locatelli, 2008).***

Aim of the work

The aim of this work is to Study the pattern of current clinical practice in hemodialysis prescription in regular hemodialysis patients in Egypt and compare this pattern with standard international guidelines in hemodialysis prescription ***(K/DIGO, 2010),*** stressing on anemia, bone disease management and adequacy of dialysis.

State the current status of dialysis patient in Egypt (questionnaire).

Hemodialysis prescription

Hemodialysis (HD) is the routine renal replacement therapy for more than 300,000 patients in the United States who have reached end-stage renal disease. The goals of HD are straightforward and include resotring the body's intracellular and extracellular fluid environment and accomplishing solute balance by either removal from the blood into the dialysate or from the dialysate into the blood. Optimal care of the patient receiving long-term HD requires appropriate prescirption according to patient- and device-dependent variables ***(Ikizler and Schulman., 2005)***.

Hemodialysis can be an outpatient or inpatient therapy. Routine hemodialysis is conducted in a dialysis outpatient facility, either a purpose built room in a hospital or a dedicated, stand alone clinic. Less frequently hemodialysis is done at home. Dialysis treatments in a clinic are initiated and managed by specialized staff made up of nurses and technicians; dialysis treatments at home can be self initiated and managed or done jointly with the assistance of a trained helper who is usually a family member ***(Abel et al., 2013)***.

A dialysis machine pumps small amounts of blood out of the body and through a filter called an artificial kidney or dialyzer. This kidney filters extra fluid and wastes from the blood. The blood is then pumped back into body ***(Abel et al., 2013).***

The dialyzer, or filter, has two parts; one part for blood and the other part for a washing fluid called dialysate. A thin membrane separates these two sides. Blood cells, protein and other important things remain in blood because they are too big to pass through the membrane. Smaller waste products such as urea, creatinine and extra fluid pass through the

membrane and are removed. Changes in the dialysate or cleansing fluid can be made for special needs ***(Abel et al., 2013).***

Figure (1): Hemodialysis in progress **(Abel et al., 2013).**

Figure (2): Hemodialysis machine **(Abel et al., 2013).**