CURRENT STATUS OF THE IMPLICATION OF THE CLINICAL PRACTICE PATTERN IN HEMODIALYSIS PRESCRIPTION IN REGULAR HEMODIALYSIS PATIENTS IN ALKALIOBYA GOVERNORATE (SECTORB2)

Thesis

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By

Mohammed Sayed Ahmed Atta Algammal
M.B., B.Ch. Tanta University

Under Supervision of

Prof. Dr. Gmal Elsayed Ibrahim Mady
Professor of Internal Medicine and Nephrology
Faculty of Medicine – Ain Shams University

Prof. Dr. Hesham Atef Aboelail
Professor assistant of Internal Medicine and Nephrology
Faculty of Medicine – Ain Shams University

Faculty of Medicine
Ain Shams University
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List of Abbreviations

ACEI..... Angiotensin Converting Enzyme Inhibitor
ACT ..... Activated clotting time
AKI ..... Acute Kidney Injury
AMR ..... Antibody-mediated Rejection
APKD ..... Adult polycystic kidney disease
ARA ..... Angiotensin Receptor Antagonist
AV ..... Arteriovenous access
AVF..... Arteriovenous fistula
AVG..... Arteriovenous graft
BFR..... Blood flow rate
BMD ..... Bone Mineral Denisty
BMI..... Body mass index
BP..... Blood pressure
BUN ..... Blood Urea Nitrogen
CAD ..... Chronic allograft dysfunction
CAN ..... Chronic allograft nephropathy
CAPD..... continuous ambulatory peritoneal dialysis
CaSR..... Calcium Sensing Receptor
CCPD..... Continous cycling peritoneal dialysis
CCr ..... Creatinine Clearance
CERA ..... Continous erythropoiesis receptor activator
CGN..... Chronic glomerulonephritis
CKD..... Chronic kideny disease
CKD-MBD..... CKD- Mineral Bone Disease
CLD ..... Chronic liver disease

List of Abbreviations (Cont.…)

CNI..... Calcineurin Inhibitor

COPD ..... Chronic obstructive pulmonary disease

CPG ..... clinical practice guidelines

CPN..... Chronic pyelonephritis

CRF..... Chronic Renal Failure

CRP..... C- reactive protein

CVC ..... Central venous cathter

CVD ..... Cardiovascular disease

CVS..... Cerebro-vascular stroke

Da ..... Dalton

DCD ..... Dialysis associated Carnitine disorder

DEXA ..... Dual-Energy X ray Absorptiometry

DFR..... Dialysate flow rate

DM ..... Diabetus mellitus

DOPPS ..... Dialysis outcome and practice pattern study

DSAs ..... Donor Specific Antibodies

EPO..... Erythropoietin

ERA-EDTA ..... the European Renal Association-European Dialysis and Transplantation association

ESA ..... Erythropoietin Stimulating Agent

ESRD ..... End stage renal disease

FDA..... Food And Drug Administration

FGF-23 ..... Fibroplast growth factor 23

GFR ..... Glomerular filtration rate

GI..... Gastro intestinal

List of Abbreviations (Cont.…)

GraDe ..... Grades of recommendation assessment, Development, and evaluation

HBV ..... Hepatitis B Virus

HCV ..... Hepatitis C Virus

HD ..... Hemodialysis

HDF ..... Hemodiafiltration

HF..... Hemofiltration

Hgb Hb..... Hemoglobin

HTN ..... Hypertension

IHD ..... Ischemic heart disease

IPD ..... Intermittent peritoneal dialysis

IV..... Intravenous

K/DOQI..... Kidney Disease Outcome Quality Initiative

KDIGO..... Kidney disease improving global outcomes

KOA..... The mass transfer area coefficient

MCV ..... Mean Corpusclar Volume

MOH..... Ministry of health

NIPD ..... Nocturnal intermittent peritoneal dialysis

NKF ..... National Kidney Foundation

PTH..... Parathyroid hormone

PVD..... Preipheral vascular disease

QIP..... Qulaity improvement programs

RAS..... Renin Angiotesin System

RBC ..... Red Blood Corpusle

RRT ..... Renal replacement therapy

List of Abbreviations (Cont.…)

SHPT ..... Secondary Hyperparathyrodism

SLE ..... Systemic lupus erycematosis

TIBC ..... Total iron binding capacity

TMP ..... Transmembrane pressure

TMV ..... Turnover,Mineralization and Volume

TPD ..... Tidal peritoneal dialysis

TSAT ..... Transferrin Saturation

URR ..... Urea reduction ratio

VDR ..... Vitamine D Receptor

(Kuf)..... The ultrafiltration coefficient

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INTRODUCTION

Studies examining the link between research evidence and clinical practice have consistently shown gaps between the evidence and current practice. Some studies in the United States suggest that 30%-40% of patients do not receive evidence-based care, while in 20% of patients care may be not needed or potentially harmful. However, relatively little information exists about how to apply evidence in clinical practice, and data on the effect of evidence-based guidelines on knowledge uptake, process of care or patient outcomes is limited ***(Locatelli et al., 2004).***

Appropriately then, the care of dialysis patients has been the prime focus of nephrology, particularly after the widespread availability of maintenance dialysis when it became evident that mortality of dialyzed patients was high and their quality of life far from adequate ***(Eknoyan et al., 2002).***

In recent years, specific clinical guidelines have been developed to optimize the quality of anemia management secondary to chronic kidney diseases(CKD).As a result, the National Kidney Foundation Kidney Disease Outcome Quality Initiative (K\DOQ I) guidelines and the Renal-European Dialysis and Transplantation Association best practice guidelines have been published in USA & Europe. Therefore; clinical practice guidance help individual physician and

physicians as group to improve their clinical performance and thus raise standard of patient care towards optimum levels, They may also help to insure that all institution provide an equally good base line standard of care ***(Cameron, 1999).***

Guidelines practiced on anemia and actual practices are much different with different places and patients according to treatment. Moreover, in individual countries and individual units within countries local circumstances relating to economic conditions; organization of health care delivery or even legal constraints may render the immediate implementation of best practice guidelines difficult or impossible. Nevertheless, they provide a goal against which progress can be measured ***(Locatelli et al., 2004).***

Dialysis Outcomes and Practice Patterns Study (DOPPS) has observed a large variation in anemia management among different countries. The main hemoglobin concentration in hemodialysis patient varied widely across the studied countries ranging between 8g/dl to 11g/dl. The percentage of prevalent hemodialysis patient receiving erythropoietin stimulating agent 'ESA' has increased from 75% to 83%. The percentage of HD patient receiving iron varies greatly among DOPPS countries range from 38% to 89% ***(Locatelli et al., 2004).***

There are challenges in implanting clinical guidelines in medical practice. Overall DOPPS data which show that, despite

the availability of practice guidelines for treatment of renal anemia, wider variation in anemia management exists as gap between what is recommended by the guidelines and is accomplished in every day clinical practice. Compliance with clinical guidelines is an importance indicator of quality and efficacy of patient care at the same time their adaptation in clinical practice may be initiated by numerous factors including; clinical experts, patient performance, constrains of public health policies, community standard, budgetary limitation and methods of feeding back information concerning current practice ***(Cameron, 1999).***

Although hemodialysis is often used for treatment of ESRD, no practice guidelines are available in Egypt. Healthcare facilities are seeking nowadays to develop practice guidelines for the sake of improving healthcare services ***(Ministry of Health and Population, 1999).***

AIM OF THE WORK

To study the pattern of current clinical practice in hemodialysis prescription in regular hemodialysis patients in Egypt and to compare this pattern with standard international guidelines in hemodialysis prescription, stressing on anemia, bone disease management and adequacy of dialysis.

AETIOLOGY OF CHRONIC KIDNEY DISEASE

CKD is the preferred term because another widely used one, chronic renal failure or insufficiency, is not as easily identifiable by patients as a disorder that affects the kidney. In addition, chronic renal failure (CRF) suggests that the kidneys have lost all of their function, whereas CKD covers the spectrum of clinical problems beginning with abnormalities detectable only by laboratory testing to a late stage, labeled uremia. When the kidney fails to perform most of its function, the clinical state is labeled end-stage renal disease ESRD, and dialysis or transplantation is required to sustain life ***(Mitch, 2007)***

Chronic kidney disease (CKD) is a devastating disease with clinical, economic and ethical dimensions, and is a recognized major public health problem. CKD is defined as kidney damage or glomerular filtration rate (GFR) less than 60 ml/min/ 1.73m2 for 3 months or more, regardless of cause ***(Levey et al., 2005).***

The major outcomes of CKD, regardless of cause include progression to ESRD, complications of decreased kidney function, and cardiovascular disease (CVD). Increasing evidence indicates that some of these adverse outcomes can be prevented or delayed by early detection, and treatment ***(Remuzzi et al., 2002).***