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بالرسالة صفحات لم ترد بالأصل

Impact of the vascular access on morbidity and mortality in chronic hemodialysis patients

Thesis

Submitted for Partial Fulfillment of Masters Degree in Internal Medicine

Presented by

Al Shaimaa Ebrahem Ahmed

M.B.B.CH – Ain Shams University

Supervised by

Prof. Dr. Mahmoud Mohammed Zaki

Head of Nephrology Department
Faculty of Medicine, Ain Shams University

Assist. Prof. Dr. Tamer Waheed El Saeed

Assistant Professor of Internal Medicine and Nephrology
Faculty of Medicine, Ain Shams University

Dr. Mohamed Saeed Hassan

Lecturer of Internal Medicine and Nephrology
Faculty of Medicine, Ain Shams University

Faculty of Medicine
Ain Shams University
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List of Abbreviations

Abb.	Full term
AV	Arteriovenous
AVF	Arterovenous fistula
AVG	Arterovenous graft
CAPD	Continuous ambulatory peritoneal dialysis
CKD	Chronic kidney disease
CRBSI	Catheter related blood stream infection
CVC	Central venous catheter
CVS	Central vein stenosis
DRIL	Distal revascularisation and interval ligation
EMEA	Europe Middle East Africa
ERBP	European Renal Best Practice
ESRD	End-stage renal disease
FMC	Fresenius Medical Care
GFR	Glomerular Filtration Rate
HD	Hemodialysis
HS	Haemostasis
IJV	Internal jugular vein
LV	Left ventricular
NC	NephroCare
PPE	Personal protective equipment
PTFE	Polytetrafluoroethylene
QIP	Quality Incentives Program
RCT	Randomized controlled trial
RN	Registered Nurse
RRT	Renal replacement therapies
tCVC	tunnelled central venous catheter
US	Ultrasound
VA	Vascular access

ABSTRACT

Background: Patients with end-stage renal disease (ESRD) have high rates of mortality and morbidity. Adequate dialysis is essential to maintain a high quality of life and survival in these patients. Vascular access is also known as a 'lifeline' for patients receiving hemodialysis (HD). Complications associated with vascular access result in frequent hospitalizations and often require intervention. These complications have significant impacts on the morbidity and mortality of dialysis patients, while also leading to high medical costs. As a result, having a well-functioning point of vascular access is very important. We aimed to study the prevelance of different types of vascular access and practice patterns at Ain Shams university hospitals and to study the impact of vascular access related problems on morbidity and mortality.

Patients and Methods: This study is a prospective cohort study conducted in Ain shams university hospitals dialysis units in which all adults with end-stage kidney disease (ESRD) from the three units were included in the study. All patients were assessed as regard basic demographics, patient characteristics and vascular access characteristics. At the start of the study and then after one year data about vascular access related mortality and morbidity were collected. Statistical data analysis was done using SPSS (statistical package for the social sciences, version 2019, SPSS, Inc, Chicago, III, USA)

Results: In our HD population where the majority of catheters were temporary nontunneled catheters, dialysis catheter use was associated with higher mortality and increased hospitalization rates compared with AV access. These results emphasize the urgent need to minimize the use of dialysis catheters.

Conclusion: Using dialysis catheter carries a higher risk for life threatening complications compared to AV access.

Keywords: vascular access, mortality, complications, haemodialysis.

INTRODUCTION

Dialysis-dependent chronic kidney disease (CKD) is an expanding problem for healthcare systems worldwide. The prevalence of end-stage renal disease (ESRD) has increased by 20% since 2000 and stands at 1699 per million people. ESRD is associated with an increased risk of cardiovascular comorbidity, increased severity of cardiovascular disease, and an adjusted all-cause mortality rate that is 6.4–7.8-fold higher than the general population ***(Trainor et al., 2011).***

Patients with end-stage renal disease (ESRD) have high rates of mortality and morbidity. Adequate dialysis is essential to maintain a high quality of life and survival in these patients. Vascular access is also known as a 'lifeline' for patients receiving hemodialysis (HD). Complications associated with vascular access result in frequent hospitalizations and often require intervention. These complications have significant impacts on the morbidity and mortality of dialysis patients, while also leading to high medical costs. As a result, having a well-functioning point of vascular access is very important ***(Fan et al., 2019).***

There are three main types of access: catheter, arteriovenous (AV) graft and arteriovenous (AV) fistula, We can allocate them into two major groups, first one is central venous catheters and its alternatives, and the second one is AV anastmosis including AVF and AVG ***(Santoro et al., 2014).***