

Mortality rate, cause of death and hospitalization among hemodialysis patients and their association with vascular access types

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Abstract :

Introduction:

vascular access complications shows an enormous burden within the chronic hemodialysis population (1), associated with an increased mortality rate and hospitalization (2, 3). However, differences in the all-cause mortality rate and hospitalization between catheter use and arteriovenous access use have not yet been investigated in our country. The study aim was to evaluate the relation of each vascular access type with mortality and hospitalization rates among hemodialysis patients in the Northern of West Bank and to investigate the major causes of death and hospitalization.

Methods:

In this prospective cohort study, all hemodialysis patients ≥ 18 year old at the four dialysis centers in the northern of West Bank with end stage renal disease started hemodialysis before 1/11/2014 were included (n=399) after taking their consents. Vascular access type, age, gender, DM, HTN & CVD status, duration of dialysis and hospitalization for each patient were obtained by interviewing patients, using their medical records in each center and other needed tools. Vital status was verified monthly, on a participant's death records taken based on death certificate. Mortality rate and all-cause hospitalization were calculated for 1-year in patients with a catheter as compared to patients with arteriovenous access. Statistical analysis was done by using Social Package of Statistical Sciences (SPSS) software version 16.0.

Results:

Of 399 patients (17 dropout), of the 382 patients, 88 had a catheter, 294 had an arteriovenous access. The overall mortality rate was 14.66 per 100 person-year. Catheter use was associated with a relative hazard (RH) of 1.85 (95% CI, 1.13 to 3.03) compared with use of an AV access. The commonest cause of death was cardiovascular diseases related, followed by infection related causes.

There were a total of 211 admissions among the 382 patients followed. Catheter use was associated with a (RH) of 1.69(95% CI, 1.26 to 2.26) compared with use of an AV access. . The commonest causes of admission were cardiovascular diseases related followed by infection related causes.

Conclusion:

In this study, hemodialysis patients who were using a venous catheter were at a higher risk for death and hospitalization compared with their counterparts who were using an arteriovenous access.