Abstract citation ID: gfae069.807

#1498

Higher body mass index in patients with diabetes mellitus and hemodialysis associated with a better survival in contrast to peritoneal dialysis

Hanri Afghahi??, Salmir Nasic??, Anna Wärme?? and Björn Peters??

1Research, Education, Development and Innovation Department, Skaraborg Hospital, Skövde, Sweden, Skövde, Sweden
2Research, Education, Development and Innovation Department, Skaraborg Hospital, Skövde, Sweden, Skövde, Sweden

Background and Aims: The association between Body Mass Index (BMI) and the risk of mortality in patients with end stage renal diseases and dialysis treatment is debated. The aim of this study was to assess the association between BMI and the risk of all-cause mortality in patients with diabetes mellitus (DM) on maintenance hemo- (HD) versus peritoneal dialysis (PD).

Method: We used the data from Swedish Renal Registry (SRR) which included 3235 patients with diabetes mellitus on dialysis treatment (2452 on HD and 783 on PD). The follow-up period was 3.9 ± 3.5 years and patients who switched from PD to HD, or vice versa, during the study period were excluded. The patients were divided in six groups by mean value of BMI according to classification of BMI by WHO. The relationships between mean value of BMI and mortality were examined by time-dependent Cox models to estimate hazard ratios (HR) and 95% confidence intervals (CI) in univariate and multivariate analyses, with adjustment for demographics, laboratory findings and comorbidities. The group with BMI 18.5< BMI≤25.0 kg/m² was used as a reference group.

Results: During the follow-up period 1688 (53%) deaths occurred (1275 on HD, 413 on PD). The mean value of BMI was 27 ± 6 kg/m² in HD and 26 ± 5 kg/m² in PD. In the multivariate analyses, patients on HD with a low BMI≤18.5 kg/m² had a higher risk for all-cause mortality (HR1.94, CI 1.47-2.54; p < 0.01) compared to the reference group. However, HD-patients with a higher BMI 25.1-30.0 kg/m² (HR 0.84, CI 0.73-0.96; p < 0.01), 30.1-35 kg/m² (HR 0.66, CI 0.55-0.78; p < 0.01), and 35.1-40.0 kg/m² (HR 0.65, CI 0.49-0.85; p < 0.01) had a significantly decreased risk of all-cause mortality compared to the reference group. In multivariate analyses, patients on PD, BMI groups of 25.1-30 kg/m² (HR 0.86, CI 0.67-1.09), 30.1-35 kg/m² (HR0.94, CI 0.67-1.31), and 35.1-40 kg/m² (HR 0.93, CI 0.48-1.77) were not significantly associated with a risk of mortality.

Conclusion: In patients with diabetes mellitus on maintenance hemodialysis underweight (BMI≤18.5 kg/m²) was associated with an increased risk of all-cause mortality; however overweight (BMI 25.1-30.0 kg/m²), class 1 obesity (BMI 30.1-35.0 kg/m²) and class 2 obesity (BMI 35.1-40.0 kg/m²) were associated with better survival. In contrast, in patients with diabetes mellitus on maintenance peritoneal dialysis no association between BMI and risk of all-cause mortality was found.