Body mass index trends in patients undergoing peritoneal dialysis for decades and their effect on patient survival: analysis of data from an end-stage renal disease registry (1985–2014) in Korea

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Objectives:

Significant increases in the prevalence of obesity have been observed among patients with incident end-stage renal disease (ESRD). However, the changes in body mass index (BMI) status in prevalent Korean patients undergoing peritoneal dialysis (PD) over the recent decades and their impact on patient survival remain unknown.

Methods: Among 80,674 patients from the ESRD registry of the Korean Society of Nephrology. Prospective cases for our analysis were outpatients ≥ 18-years-old who underwent maintenance peritoneal dialysis between 1985 and 2015. Among the possible (10,495) cases identified, cases with sufficient data was not measured were excluded. After screening, our analysis was based on the data of 6,095 cases. BMI divided the entire patient population into quartiles. As a result, BMI was divided into <21.19 in group 1, 21.19 to 23.18 in group 2, 23.18 to 25.71 in group 3, and >25.70 in group 4. Among the 6,095 cases included in our analysis, 2,229 (36.7%), Kaplan-Meier survival curves confirmed increase in all-cause mortality among BMI.

Results:

The log rank of the Kaplan-Meier survival curves according to the BMI Group was 19.53 and the P-value was 0.001. Cox proportional hazards model, Even after adjustment for potential confounders, the all-cause mortality HR was 1.29 (95% CI, 1.10–1.55; P = 0.001) in quartile 3 and 1.36 (95% CI, 1.14–1.59; P< 0.001) in quartile 4 respectively. However, There was no statistical significance between quartile 1 and quartile 2(HR, 1.17; 95% CI, 0.99–1.37; P = 0.055). In diabetic patients which were adjusted for several parameters that was important to mortality, meaningful values were seen in group 4 and mortality was 1.45 times higher in patients with BMI 25 or higher in diabetic patients1.45 (95% CI1.20-1.76 p-value<0.001).

Conclusions: In the Korean PD patients BMI elevation is significantly correlated with increased mortality of CAPD patients. In particular, the high BMI of DM CAPD patients increases mortality