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Good Glycemic Control is Associated with Better Survival in Diabetic Patients on Peritoneal Dialysis

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Previous studies have demonstrated that strict glycemic control was associated with a slow progression of diabetic nephropathy, and with higher survival rates in diabetic patients undergoing hemodialysis. However, the impact of glycemic control on the outcome of diabetic peritoneal dialysis (PD) patients has largely been unexplored. This retrospective study was undertaken to clarify whether poor glycemic control was associated with increased mortality in diabetic patients on PD. One hundred and forty diabetic patients who started PD between Jan 2001 and Dec 2008 were included. Patients were divided into three groups according to the mean of quarterly HbA1C levels measured during the first year after the initiation of PD. The mean age was 58.7 years, 59.3% were male, and the mean follow-up duration was 3.5 years (range 0.4-9.5 years). The mean HbA1C levels were 6.3±0.3%, 7.1±0.3%, and 8.5±1.1% in the 1st, 2nd, and 3rd tertile groups, respectively. Compared to the 1st tertile group, the overall mortality rates were higher in the 2nd [hazard ratio (HR), 2.70; 95% confidence interval (CI), 0.65-11.13; p=0.170] and significantly higher in the 3rd (HR, 8.78; 95% CI, 1.92-40.13; p=0.005) tertile groups (p for trend=0.015). However, there was no significant difference in cardiovascular mortality among the three groups (p for trend=0.946). In contrast, non-cardiovascular deaths, most of which were caused by infection, were more frequent in the 2nd (HR, 4.23; 95% CI, 0.45-40.01; p=0.208) and significantly more frequent in the 3rd (HR, 27.05; 95% CI, 2.61-280.96; p=0.006) compared to the 1st tertile group (p for trend=0.007). In conclusion, poor glycemic control seems to be associated with high rates of mortality, especially non-cardiovascular mortality, in diabetic PD patients, suggesting that better glycemic control may improve the outcome of these patients.

Key Words: Glycemic control, Peritoneal dialysis, Diabetes