

# SAGITTAL ABDOMINAL DIAMETER IS AN INDEPENDENT PREDICTOR OF MORTALITY IN INCIDENT PERITONEAL DIALYSIS PATIENTS

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## OBJECTIVES

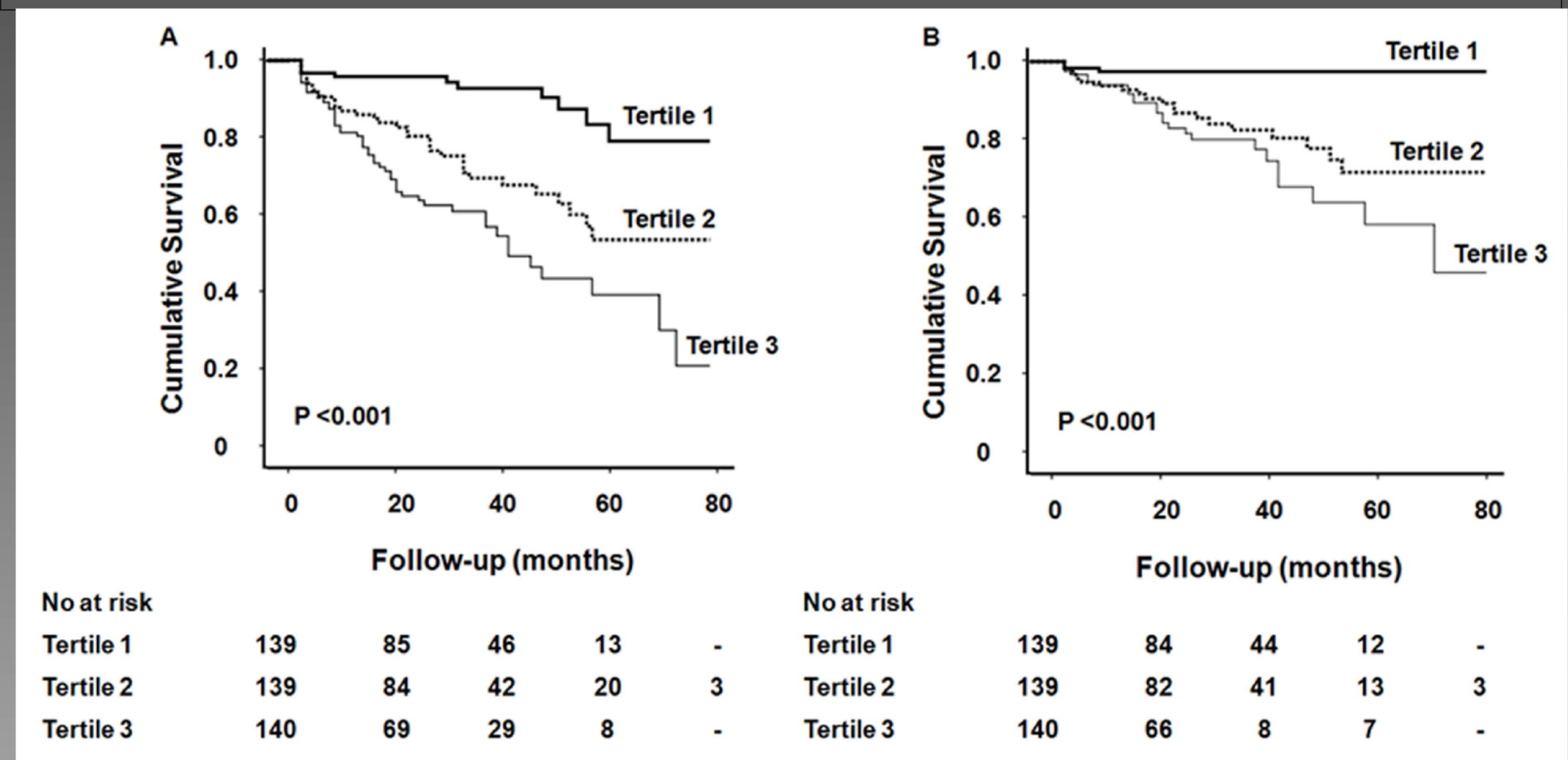
Visceral fat plays a crucial role in the development and the progression of cardiovascular disease. However, the impact of sagittal abdominal diameter (SAD), an index of visceral fat, on clinical outcomes has never been explored in dialysis patients. Therefore, we sought to elucidate the prognostic value of SAD on patient mortality in incident peritoneal dialysis (PD) population.

## RESULTS

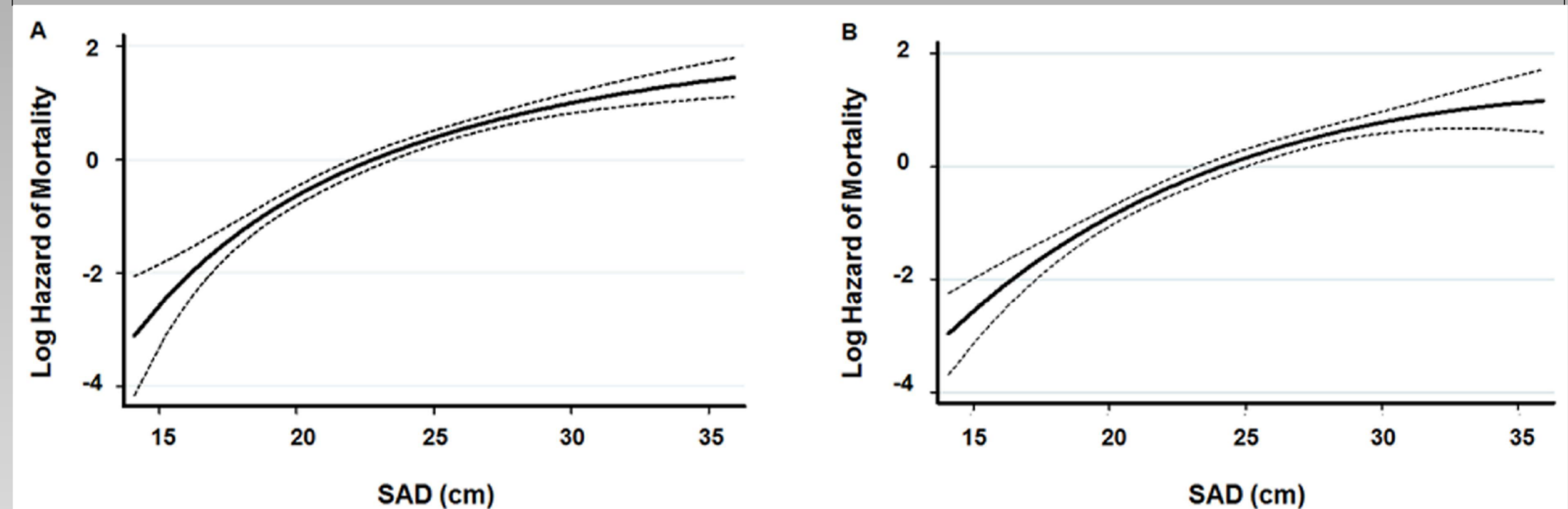
The mean SAD was  $24.5 \pm 4.3$  cm. During a mean follow-up of  $39.4 \pm 21.3$  months, 97 patients (23.2%) died. SAD was an independent predictor of all-cause [HR (hazard ratio) 1.081, 95% CI (confidence interval) 1.015-1.151,  $P = 0.015$ ] and cardiovascular mortality (HR 1.119, 95% CI 1.022-1.225,  $P = 0.015$ ). In addition, SAD provided higher predictive value for all-cause and cardiovascular mortality than body mass index (BMI). In subgroup analysis, higher SAD ( $\geq 24.2$  cm) was significantly associated with all-cause mortality in men (HR 1.996, 95% CI 1.014-3.992,  $P = 0.045$ ), women (HR 2.476, 95% CI 1.082-5.665,  $P = 0.032$ ), younger patients ( $< 65$  years/ HR 4.260, 95% CI 1.845-9.833,  $P = 0.001$ ), and the lower BMI group ( $< 22.3$  kg/m<sup>2</sup>/ HR 2.033, 95% CI 1.056-3.914,  $P = 0.034$ ).

## METHODS

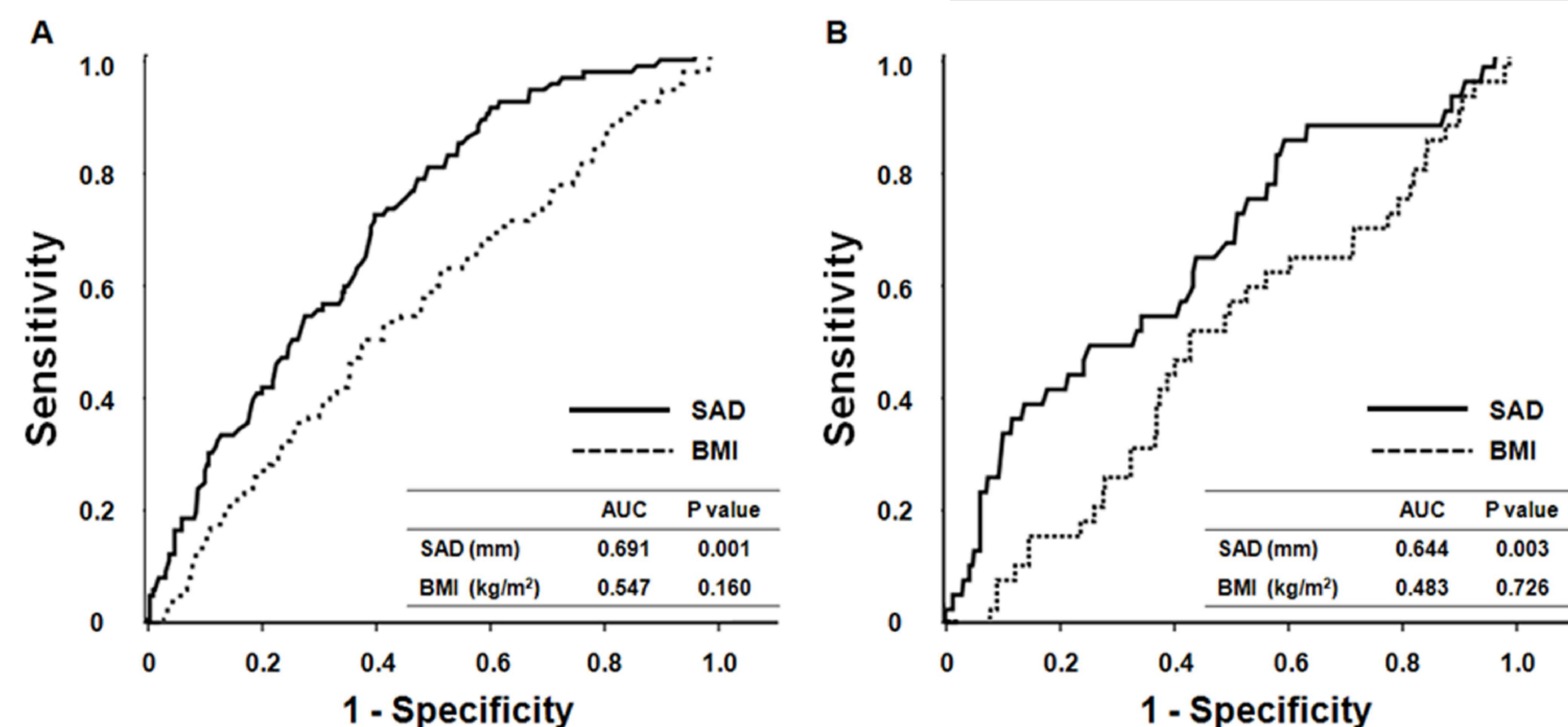
SAD was determined prospectively using lateral abdominal X-ray at the time of initial dialysis, and the association of SAD with mortality was evaluated in 418 PD patients.



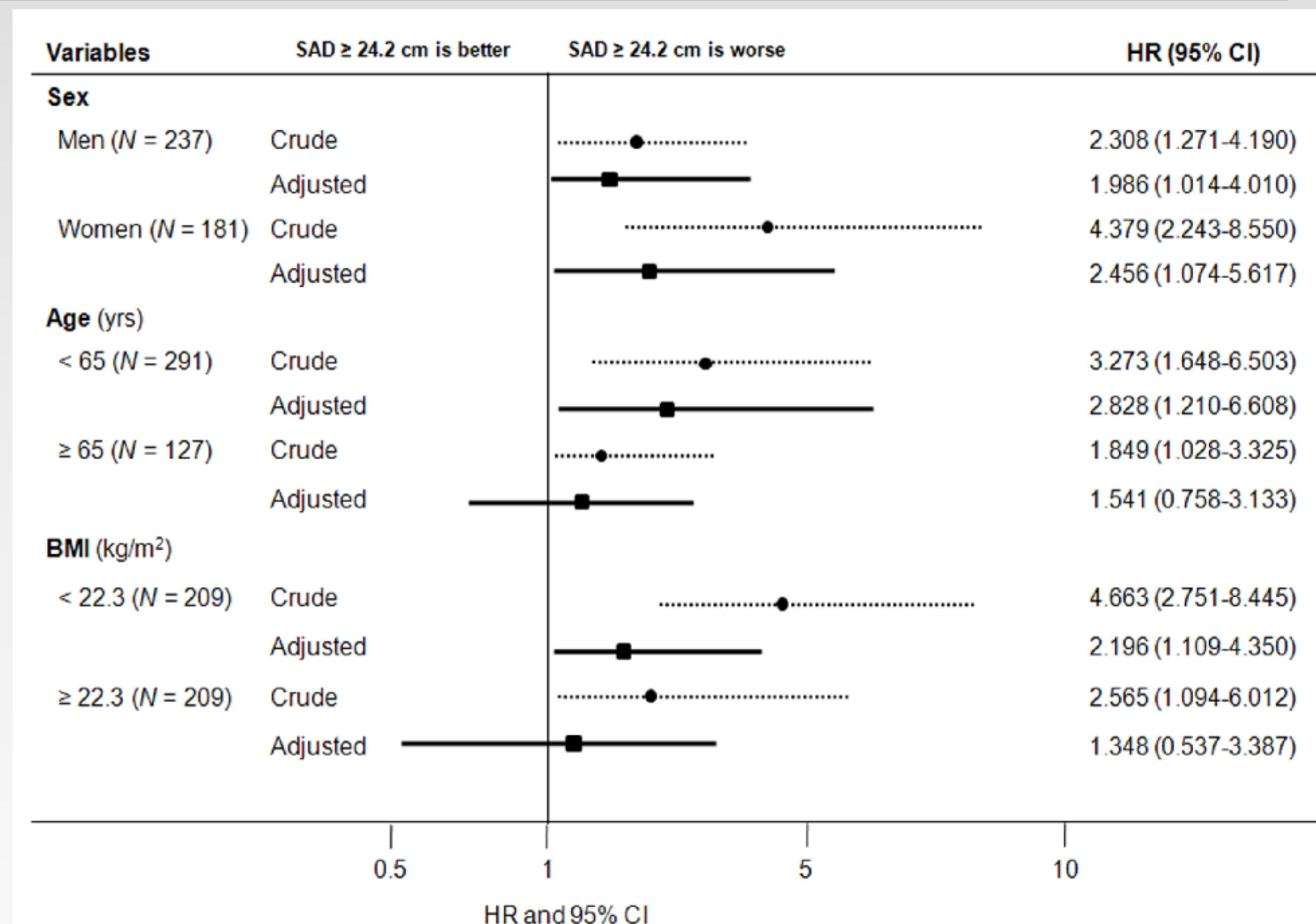
**Figure 1.** Kaplan-Meier analysis of (A) all-cause and (B) cardiovascular mortality according to the SAD tertiles. Patients with higher SAD tertiles showed significantly higher all-cause and cardiovascular mortality (both log-rank test,  $P < 0.001$ ).



**Figure 2.** Multivariate fractional polynomial graphs for the association between SAD and (A) all-cause mortality and (B) cardiovascular mortality.



**Figure 3.** Receiver operating characteristic (ROC) curve for SAD and BMI to predict (A) all-cause and (B) cardiovascular mortality. SAD provided higher predictive accuracy for all-cause and cardiovascular mortality than BMI (both  $P < 0.001$ ).



**Figure 4.** HRs of all-cause mortality for higher SAD ( $\geq 24.2$  cm) in different subgroups of 418 patients. Higher SAD was significantly associated with increased risk of all-cause mortality in men, women, younger age ( $< 65$  years), and lower BMI groups ( $< 22.3$  kg/m<sup>2</sup>).

## CONCLUSIONS

SAD on lateral abdominal X-ray was an independent predictor of all-cause and cardiovascular mortality in incident PD patients.

