Pulse pressure superior to systolic or diastolic blood pressure in predicting mortality in hemodialysis patients.

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Introduction

Recent studies concerning patients on hemodialysis have not been conclusive regarding the best blood pressure measurement in relation to predicting long term outcome. Currently, there is uncertainty whether pulse pressure, systolic or diastolic should be preferred.

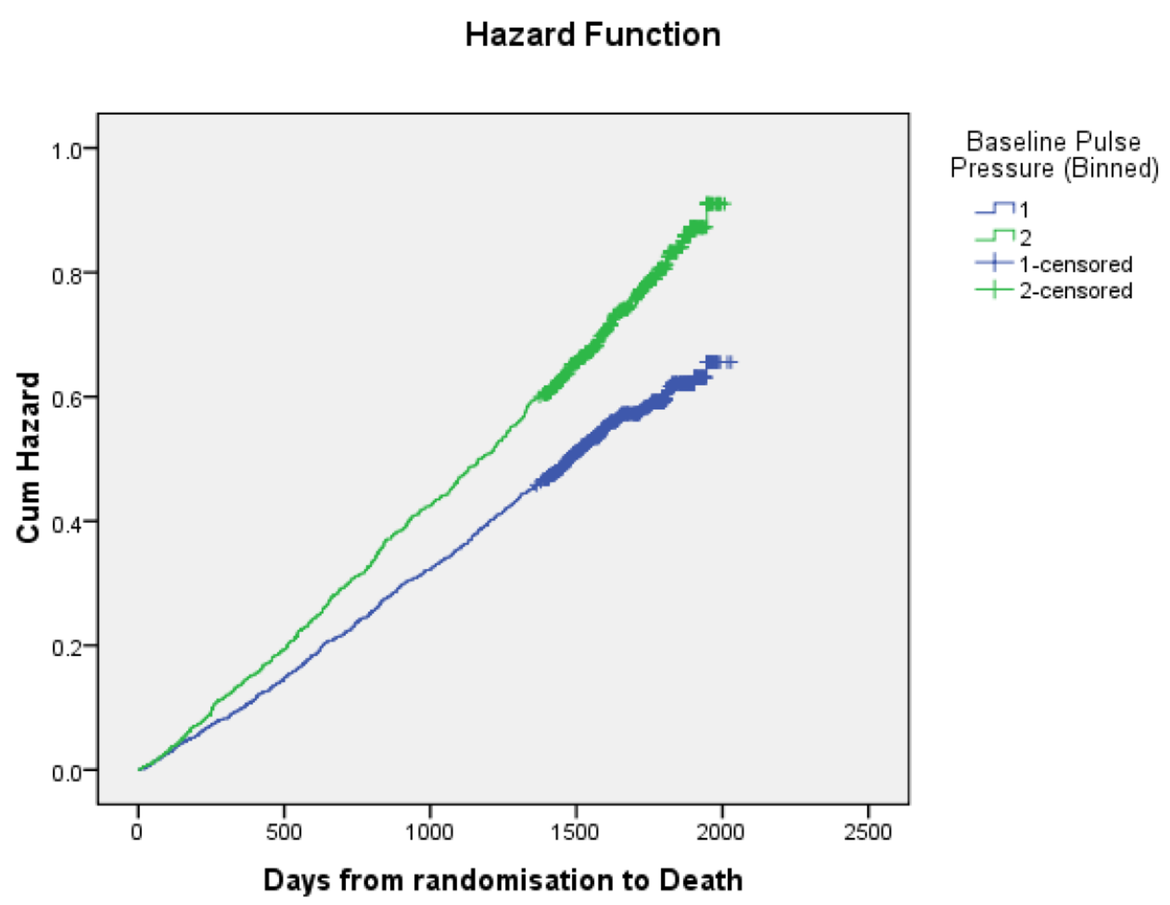
Methods

The AURORA study was a randomized controlled trial evaluating rosuvastin in hemodialysis patients. We performed a post-hoc analysis for the outcome of all cause mortality. Pulse pressure, systolic blood pressure and diastolic blood pressure were evaluated in separate Cox regressions. These were adjusted for age, gender, BMI, current smoking, phosphate, albumin, high-sensitive CRP, dialysis vintage, diabetes, coronary heart disease and dialysis adequacy. Explanatory value was assessed by calculation of Wald statistic and its corresponding p-value.

Results

A total of 2773 patients were included. During a median follow-up time of 3.8 years there were 1296 events. Mean age was 64 years and 62% were men. Mean systolic blood pressure was 137.0 mmHg, and diastolic blood pressure was 75.8 mmHg. In adjusted analyses, the measure of blood pressure with the highest explanatory value for the outcome of all cause mortality was pulse pressure (Wald 5.1, p=0.02), followed by systolic blood pressure (Wald 3.4, p=0.07), and diastolic blood pressure (Wald 0.001, p=0.98).

High vs low pulse pressure, all cause mortality



Conclusion

Pulse pressure is superior to systolic or diastolic blood pressure in predicting mortality in dialysis patients.

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