

# ASSOCIATION BETWEEN PULSE PRESSURE AND CARDIOVASCULAR MORBIDITY IN PATIENTS UNDERGOING PERITONEAL DIALYSIS

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- **Introduction:** Patients on dialysis exhibit vascular abnormalities, especially medial vascular calcification that contribute to elevated pulse pressure. Pulse pressure has been shown to be associated with adverse outcomes in the general population and in patients on hemodialysis. However, the significance of pulse pressure has not been studied in peritoneal dialysis. (PD) patients. This study examined the association between pulse pressure and cardiovascular morbidity in patients undergoing chronic PD.
- **Methods:** 61 stable PD patients, mean age 55.5 ± 14.5 years, 55.7 % male, 26.2 % diabetics, were followed for three years. Demographic and clinical data were extracted from clinical charts. Blood pressure was measured by trained nurses using a standard mercury sphygmomanometer with the patient in the supine position. Systolic and diastolic blood pressures were collected serially every 3 months. Pulse pressure was quantified as the difference between systolic pressure and diastolic pressure.
- **Results:** Majority of patients (85.2%) had hypertension at the start of study; 83.6 % were taking at least 1 hypertensive medication. Systolic blood pressure was 138.1 ± 24.2 mmHg, diastolic blood pressure was 78.5 ± 14.7 mmHg and pulse pressure 59.6 ± 19.1 mmHg. A higher pulse pressure was seen among patients with diabetes compared with those without diabetes (65.1 ± 17.3 vs 56.4 ± 17.1 mmHg,  $p < 0.001$ ). Patients with left ventricular hypertrophy (LVH) had a higher pulse pressure than those without LVH (62.7 ± 17.5 vs 55.2 ± 16.3 mmHg,  $p < 0.01$ ). In univariate analysis every 1 mmHg increase of pulse pressure was associated with significant increased risk for cardiovascular morbidity HR 1.07, 95% CI 1.04-1.11;  $p < 0.001$ . Also, the association remained strong in multivariate analysis, where every increase of 1 mm Hg in pulse pressure was associated with significant increased risk for cardiovascular morbidity HR 1.25; 95% CI 1.10-1.43;  $p = 0.001$ .
- **Conclusions:** In our study pulse pressure is shown to be strongly associated with cardiovascular morbidity in PD patients. This finding suggests that antihypertensive therapy in PD patients should also be focused to decrease pulse pressure.

