

AMBULATORY RECORDING OF WAVE REFLECTION AND ARTERIAL STIFFNESS PARAMETERS DURING THE LONG INTERDIALYTIC INTERVAL IN PATIENTS RECEIVING CONVENTIONAL HEMODIALYSIS

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Background & Objectives:

Vascular remodeling in hemodialysis (HD) patients is characterized by accelerated arterial stiffening, which represents strong and independent predictor of mortality¹. Recent cohort studies have demonstrated that long interdialytic interval is associated with heightened risk of cardiovascular death in patients receiving conventional thrice weekly HD²⁻⁵. The aim of this study was to investigate for first time potential variations in arterial stiffness indices between Day 1, Day 2 and Day 3 of a 72-hour interdialytic period in HD patients.

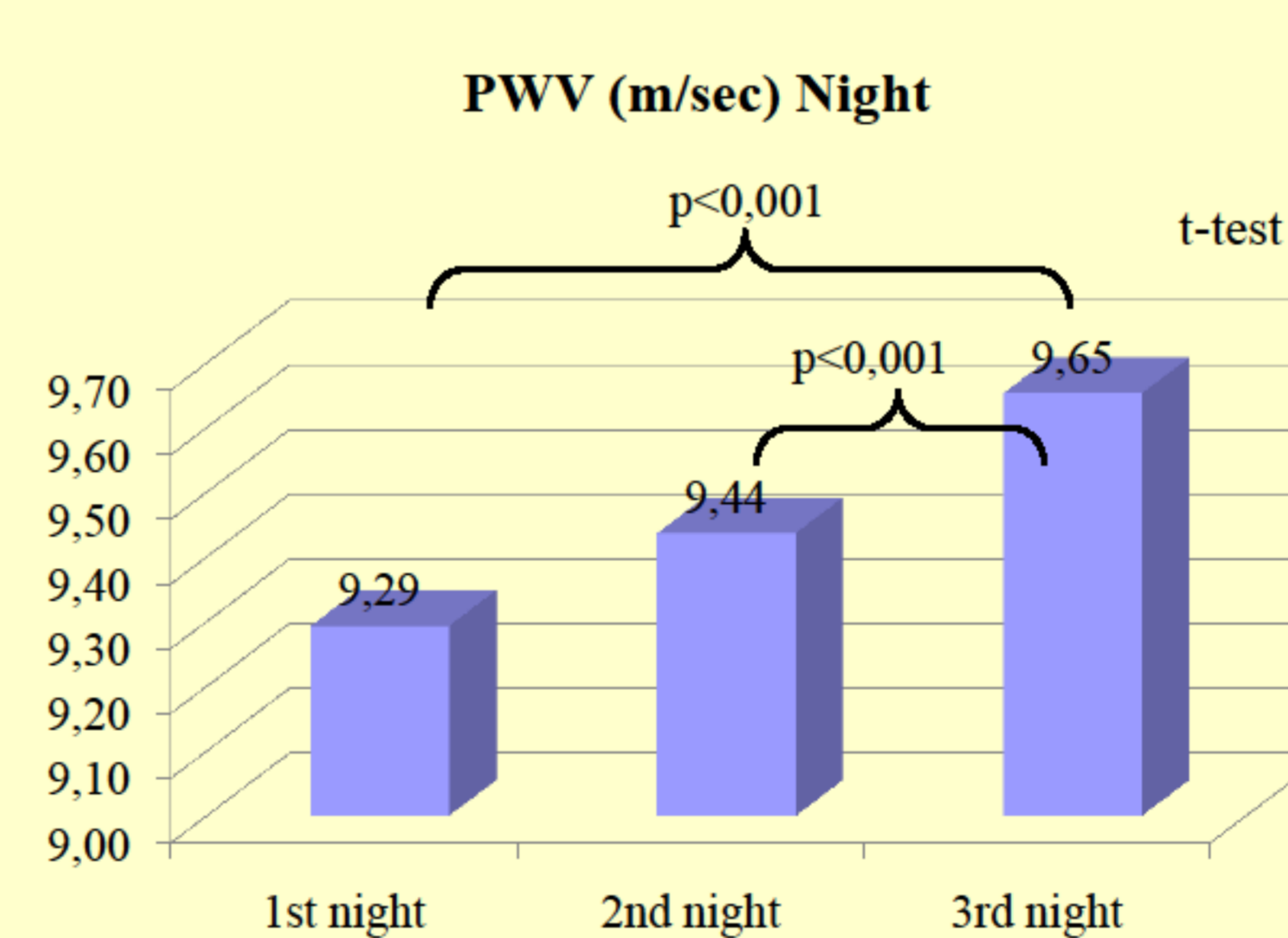
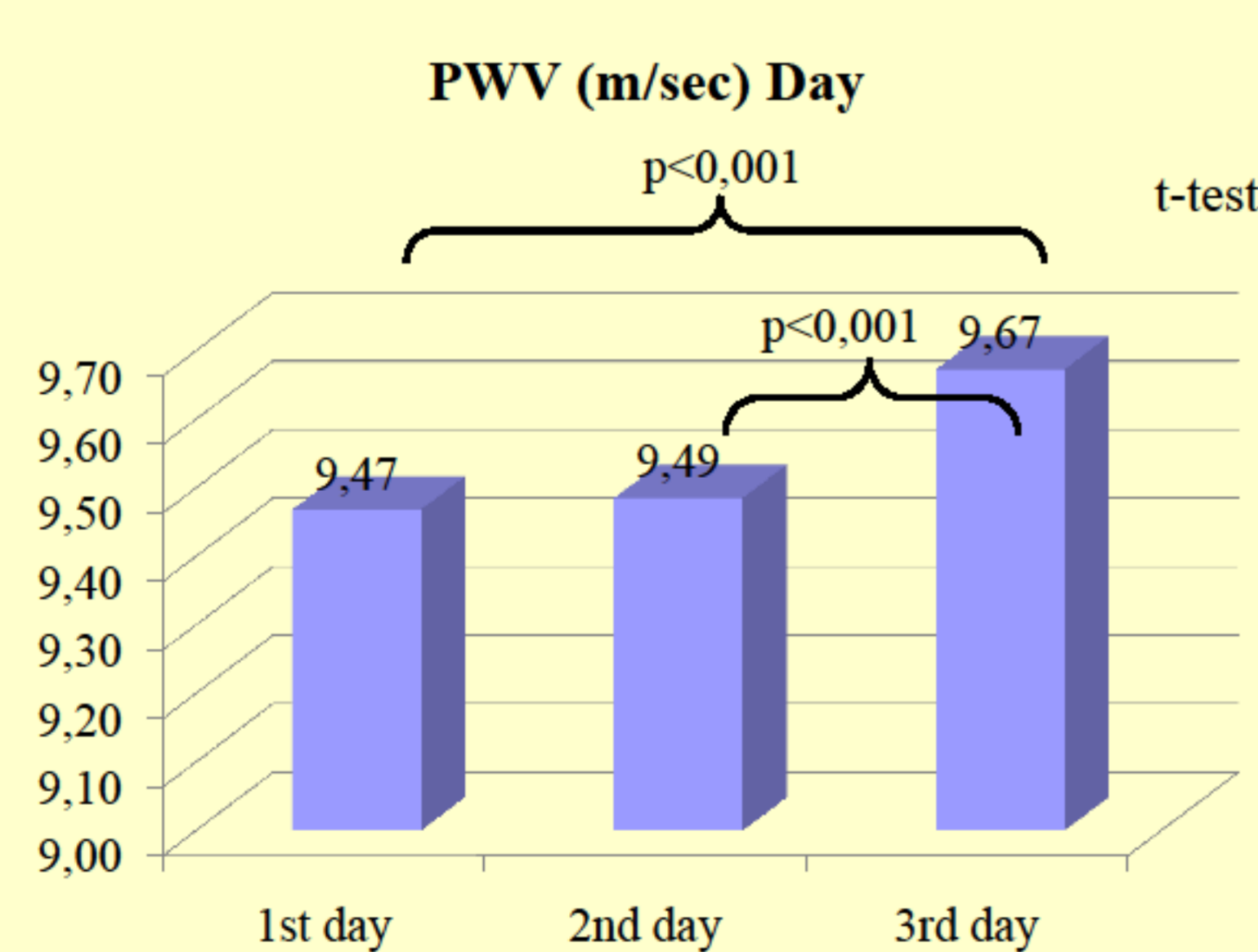
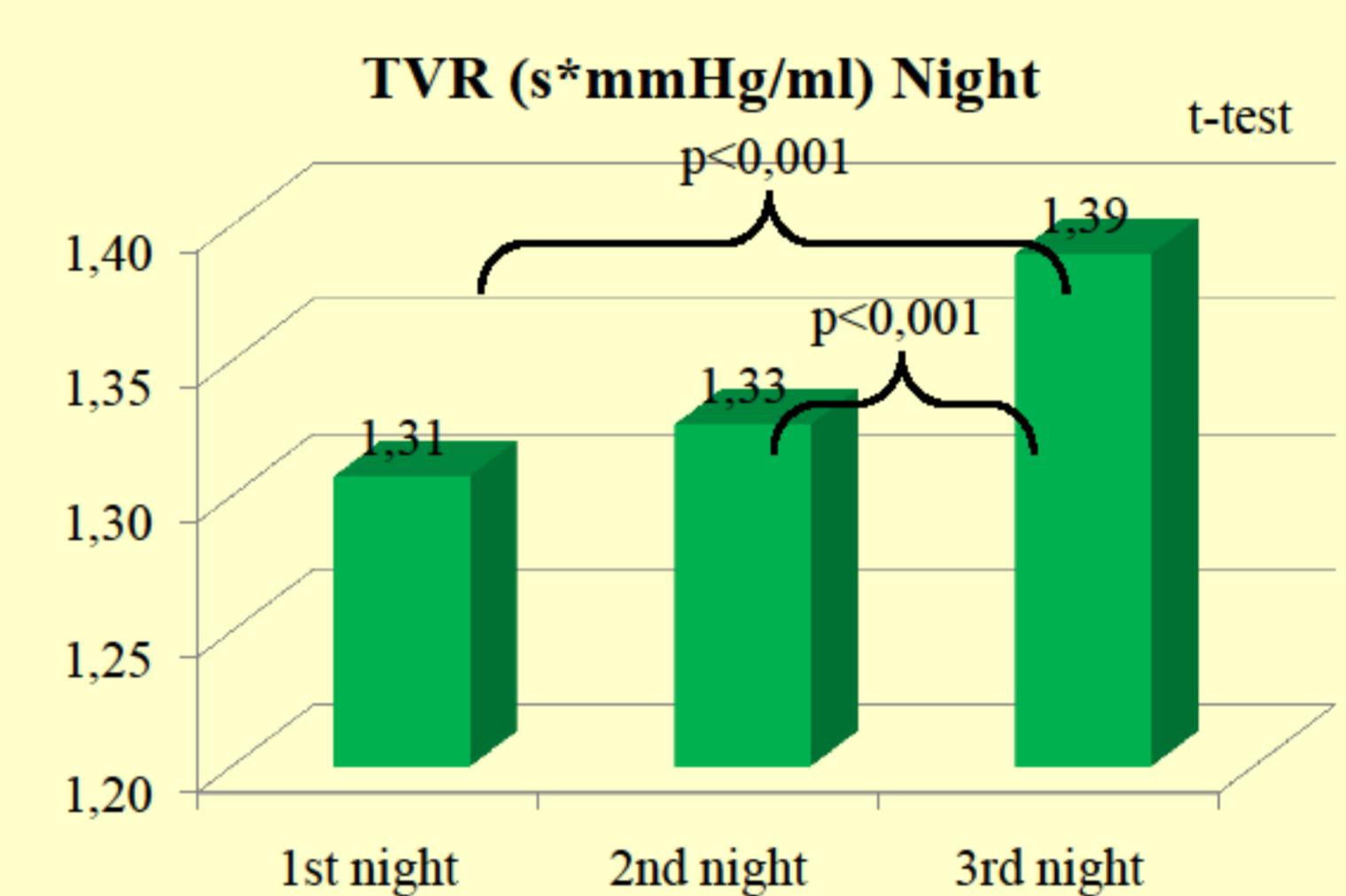
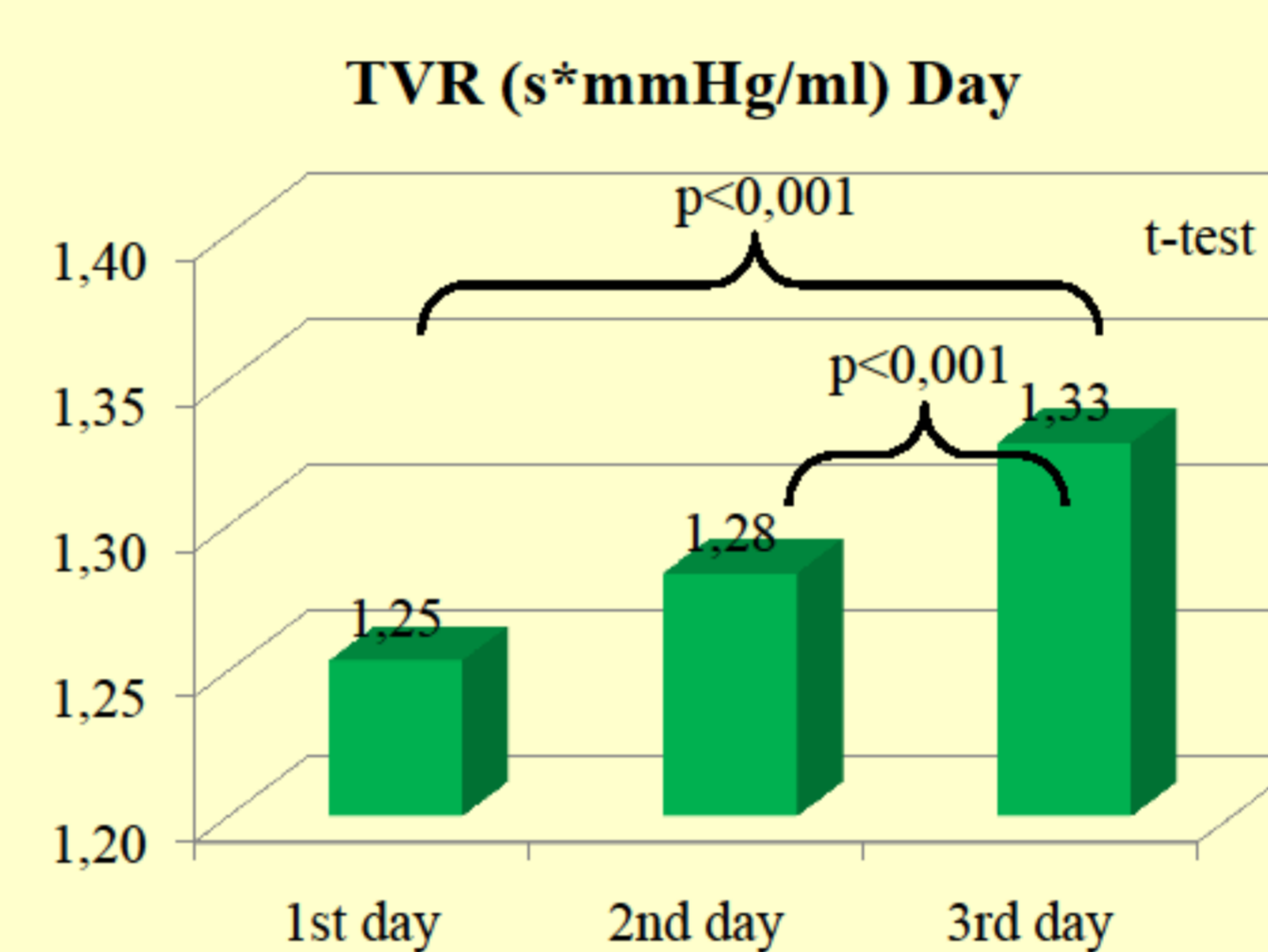
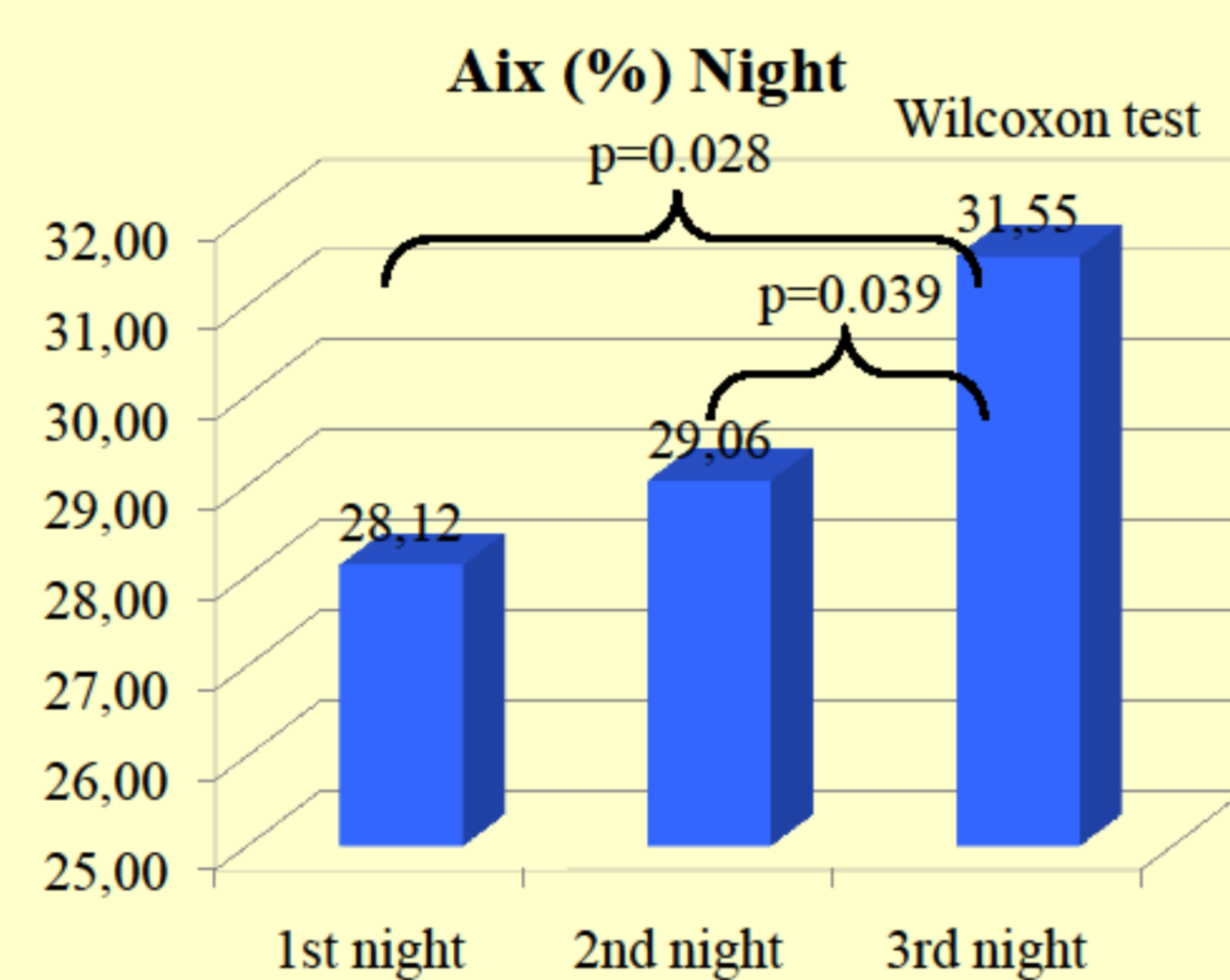
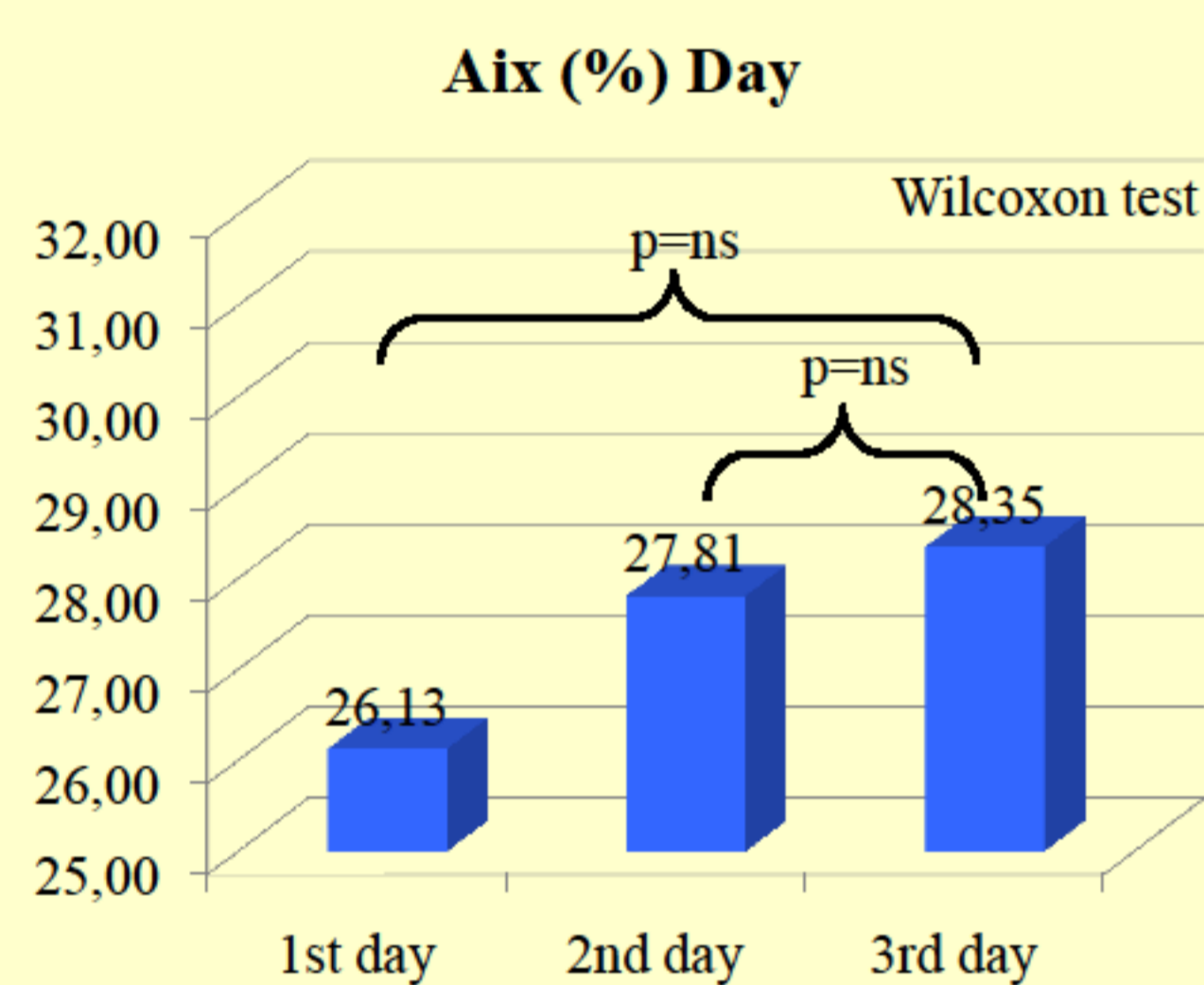
Patients & Methods:

A total of 55 end-stage renal disease patients receiving conventional HD (mean age 63.8 ± 1.8 years and median time on renal replacement therapy 29 months) underwent a brachial and aortic Ambulatory Blood Pressure Monitoring (ABPM) with the newly-introduced Mobil-O-Graph device (IEM, Stolberg, Germany). ABPM covered a whole 72-hour interdialytic period prior to the first HD session of the week. Mobil-O-Graph is a validated brachial cuff-based automatic oscillometric device that records blood pressure (BP) and pulse waveforms at brachial artery and calculates augmentation index (AIx), total vascular resistance (TVR) and pulse wave velocity (PWV) in ambulatory conditions. Mean day-time and night-time values of the above parameters were compared between Day 1, 2 and 3 of the long interdialytic interval.



Results

This is an ongoing study, more patients were enrolled, so we are presenting to you results from 55 patients.



Conclusions:

This study showed for first time a gradual increase in arterial stiffness parameters during the 72-hour interdialytic period. The significantly higher TVR and PWV at Day 3 of the long interdialytic interval may represent a mechanism possibly involved in the increased risk of death of HD patients at this time-period.

References:

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