AMBULATORY BLOOD PRESSURE MONITORING VERSUS OFFICE BLOOD PRESSURE AND TARGET ORGAN DAMAGE IN PATIENTS WITH HYPERTENSION AND CHRONIC KIDNEY DISEASE

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Objectives:

Hypertension is a major independent risk factor for the progression of chronic kidney disease (CKD) and cardiovascular disease[1]. In the management of hypertension in patients with CKD, control of hypertension is very important and depends on the technique of blood pressure (BP) measurement[2]. Recent evidence suggests that ambulatory blood pressure monitoring (ABPM) is a superior prognostic marker of target organ damage compared to BP obtained in the clinic[3,4].

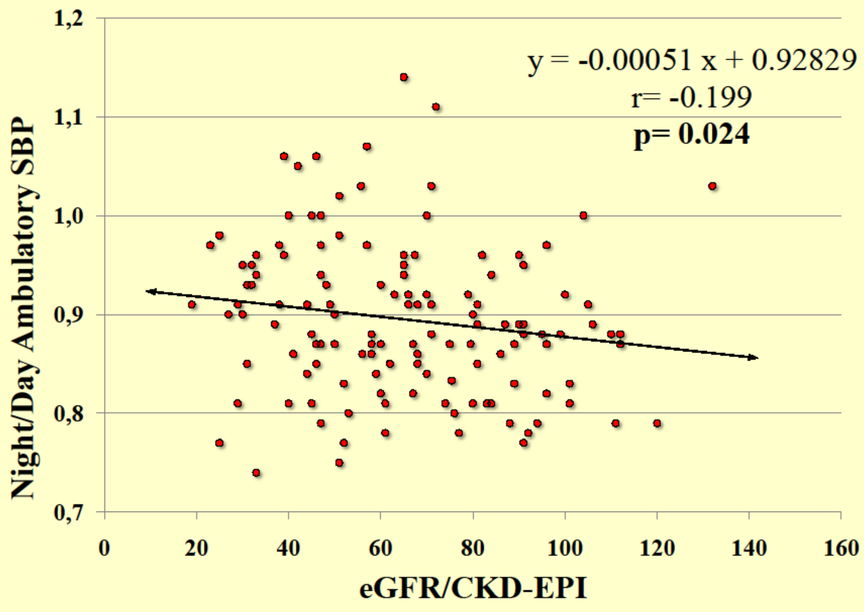
The aim of the study was to determine the superiority of BP values obtained using ABPM compared to BP values obtained from standard clinical measurements and its importance for documenting target organ damage in patients with CKD and hypertension.

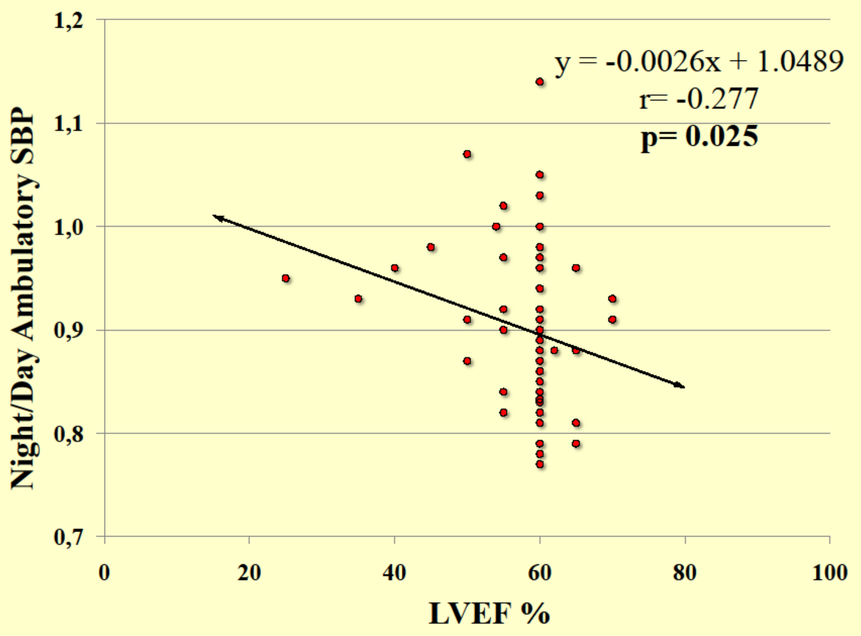
Methods:

We performed a retrospective study that included 129 subjects from the Nephrology-Hypertension Out-patient Department of the University Campus Bio-Medico, Rome from January 2011 to April 2013. ABPM parameters, clinical BP, creatinine, proteinuria/24h and left ventricular ejection fraction (LVEF) were collected. Estimated glomerular filtration rate (eGFR) was calculated by The Chronic Kidney Disease Epidemiology Collaboration (CKD-EPI) formula. Univariate and multivariate analyses were used. P-values <0.05 were considered statistically significant.

Kidney damage

Correlation	eGFR/CKD-EPI (ml/min/1.73m²)		Proteinuria g/24h	
	ρ (rho) Spearman	p test Spearman	ρ (rho) Spearman	p test Spearman
Office SBP	-0.095	0.287	0.083	0.533
ABPM parameters				
Mean 24 h SBP	-0.071	0.421	-0.029	0.827
Mean daytime SBP	-0.047	0.600	-0.027	0.841
Mean nighttime SBP	-0.170	0.055	-0.013	0.922
Night/Day ambulatory SBP	**-0.199**	**0.024**	0.065	0.628





Cardiovascular damage

LVEF % -Correlation	ρ (rho) Spearman	p test Spearman
Office SBP	-0.133	0.287
ABPM parameters		
Mean 24 h SBP	-0.104	0.404
Mean daytime SBP	-0.077	0.538
Mean nighttime SBP	-0.180	0.148
Night/Day ambulatory SBP	**-0.277**	**0.025**

Results:

The mean age of the 129 patients CKD patients (stages 1 to 4) was 62.75 12.3 years; 68.99% were men and 31.01% were women and the mean of eGFR/ CKD-EPI was 65.14 24.38 ml/min/1.73m2.

We found correlations between the parameters of ABPM (especialy night/day ratio ambulatory SBP) and eGFR (p=0.024) and LVEF (p=0.027). When we analyzed the correlation between office BP and GFR and LVEF in the study group we did not find statistically a significant correlation (p=0.287). Also we did not find statistically significant correlations between proteinuria/24 hour and ABPM parameters or office BP.

Conclusions:

The parameters of ABPM (especially nigt/day ratio ambulatory SBP) were better correlated with target organ damage (eGFR and LVEF) versus office BP in the study group.

References:

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F) Hypertension.
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