



ROLE OF PULSE PRESSURE IN WORSENING RENAL FUNCTION OF PATIENT WITH HYPERTENSION



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BACKGROUND

Blood pressure (BP) is a periodic phenomenon. Recent studies in the late 2000 suggest that Pulse Pressure (PP) is a strong predictor of cardiovascular end points, and is perhaps stronger than MAP, SBP and DBP.¹ PP is important independent prognostic markers of cardiovascular morbidity and mortality. However still, the normal range of PP is not known.²

Chronic kidney disease (CKD) is a significant global problem. As CKD is usually silent until its late stages, many patients are detected only shortly before the onset of symptomatic kidney failure when there are few opportunities to prevent adverse outcomes. Proteinuria and albuminuria are the earliest markers of kidney damage.³

OBJECTIVE

To study BP components in conjunction with early sign of worsening renal failure in all cardiac patients without previous history of renal disease and diabetes

METHOD

This is a cross-sectional study in which samples were taken from all patients of NCCHK in 2014 whom urine sample have already been checked. History of renal disease and diabetes mellitus were excluded. Bivariate Correlation using SPSS ver-21 was done.

RESULTS AND CONCLUSION

Table 1. Correlation of BP Components towards Kidney Damage Markers in Non Diabetic Patients

	Proteinuria		Microalbuminuria	
	Pearson Correlation	Sig. (2-tailed)	Bivariate Correlation	Sig. (2-tailed)
SBP (mmHg)	.105	.213	.721	.008
DBP (mmHg)	.037	.661	.244	.445
PP (mmHg)	.163	.050	.711	.010
MAP (mmHg)	.031	.714	.528	.078

Table 2. Correlation of PP Level towards Kidney Damage Markers

	Proteinuria		Microalbuminuria	
	R	Sig. (2-tailed)	R	Sig. (2-tailed)
PP ≤ 40 mmHg	R = .047 Sig. (2-tailed) = .775	R = .012 Sig. (2-tailed) = .903	R = .638 Sig. (2-tailed) = .362	R = .031 Sig. (2-tailed) = .942
PP 41-60 mmHg	R = .058 Sig. (2-tailed) = .647		R = .751 Sig. (2-tailed) = .249	
PP > 60 mmHg	R = .436 Sig. (2-tailed) = .006	R = .220 Sig. (2-tailed) = .026	R = .992 Sig. (2-tailed) = .008	

Table 3. Correlation of BP Components towards Kidney Damage Markers in Non Diabetic Hypertensive Patients

	Proteinuria		Microalbuminuria	
	Pearson Correlation	Sig. (2-tailed)	Bivariate Correlation	Sig. (2-tailed)
SBP (mmHg)	.330	.024	.800	.200
DBP (mmHg)	-.064	.634	-.400	.600
PP (mmHg)	.342	.018	.400	.600
MAP (mmHg)	.122	.365	.000	.800

As conclusion, higher BP components give independent risk towards presence of microalbuminuria, regardless the BP level. PP >60 mmHg in non-diabetic express very high positive correlation towards microalbuminuria. Only PP and SBP give significant positive correlation towards early sign of renal failure in non-diabetic hypertensive samples. Future study with advance method and larger sample size needed in order to get better management approach.

REFERENCES

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