

# BLOOD PRESSURE CONTROL IN VERY OLD HEMODIALYSIS PATIENTS IN DALMATIA COUNTY (SOUTHERN CROATIA)

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## OBJECTIVES

Poor blood pressure control in very old patients with end stage renal disease (ESRD) on maintenance haemodialysis (HD) is the cause of cerebrovascular and cardiovascular morbidity and mortality. The aim of this study was to revealed blood pressure control among very old HD patients in HD centres in Dalmatia County (Southern Croatia).

## METHODS

We investigated 402 patients (170 and 232 males) mean age 68.13±13.8 years on maintenance HD 4.73±5.17 years. Out of all HD patients, 81 patients (20.1%) were >80 years of age. For every study subjects pre HD, after 2 hours (2 hrs HD) and post HD recumbent systolic blood pressure (SBP) and diastolic blood pressure (DBP) were measured during middle week HD session.

## RESULTS

Differences in blood pressure parameters between subjects >80 years of age (N= 81) and subjects ≤ 80 years of age (N=321) are shown in Table 1. Statistically significant correlation between age and pre HD DBP, pre HD MAP, post HD DBP and post HD MAP was found (r=-0.248; p=0.000), (r=-0.179; p=0.000), (r=-0.168; p=<0.001), (r=-0.121; p=0.008) respectively. Also, significant correlation between age and 2 hrs HD SBP, 2 hrs HD DBP and 2 hrs HD MAP was found (r=-0.091; p=0.034), (r=-0.201; p=0.000), (r=-0.159; p=0.001) respectively.

**Table 1** The differences between haemodialysis patients ≤80 years (N=321) and >80 years (N=81) of age, Student's t-test for independent samples (one tailed, significant correlations are marked).

	HD patients ≤80 years (N=321)		HD patients >80 years (N=81)		p
	X± SD	X± SD	X± SD	X± SD	
Pre HD SBP (mmHg)	133.28± 25.13	130.14± 20.83			0.150
Pre HD DBP (mmHg)	73.26± 12.95	70.54± 10.44			0.041*
Pre HD MAP (mmHg)	93.27± 15.47	90.41± 12.15			0.062
Pre HD PP (mmHg)	60.02± 19.34	59.59± 17.69			0.429
Post HD SBP (mmHg)	124.90± 23.60	123.32± 21.07			0.292
Post HD DBP (mmHg)	70.00± 12.25	69.43± 10.02			0.349
Post HD MAP (mmHg)	88.30± 15.01	87.40± 11.79			0.307
Post HD PP (mmHg)	54.90± 16.46	53.89± 18.48			0.316
2 hrs HD SBP (mmHg)	123.43± 25.18	117.43± 25.27			0.029*
2 hrs HD DBP (mmHg)	69.58± 13.33	65.51± 12.49			0.007*
2 hrs HD MAP (mmHg)	87.53± 16.11	82.81± 15.04			0.009*
2 hrs HD PP (mmHg)	53.84± 17.79	51.93± 20.20			0.201

X±SD, arithmetic mean±standard deviation; \*, p<0.05; SBP: systolic blood pressure; DBP: diastolic blood pressure; MAP, mean arterial blood pressure; PP: pulse pressure.

## CONCLUSIONS

The results from this multicentre study have shown statistically lower blood pressure in very old HD patients. In this population of HD patients hypotension also might be risk of cerebrovascular and cardiovascular morbidity and mortality. Further studies need to be conducted to determine best HD treatment and combination of antihypertensive medications and optimal dosing in order to improve BP control and prevent hypotension in this population of HD patients.

## References

Denker MG, Cohen DL. What is an appropriate blood pressure goal for the elderly: review of recent studies and practical recommendations. Clinical Interventions in Aging 2013;8:1505 – 17.

