

# RESIDUAL RENAL FUNCTION IN PATIENTS TREATED WITH CHRONIC HEMODIALYSIS

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## BACKGROUND

*Outcome studies suggest that residual renal function (RRF) is a more important determinant of patient survival, morbidity, and quality of life than the prescribed or achieved dialysis dose. The aim of this analysis was to investigate which clinical and laboratory parameters are associated with residual diuresis.*

## METHODS

*We analyzed 206 (120 male) chronic hemodialysis (HD) patients mean age  $67.8 \pm 13.2$ . The mean duration of renal replacement therapy (RRT) was  $56.6 \pm 66.4$  months,*

## RESULTS

*We didn't find any significant correlation among residual diuresis and age, gender, presence of hypertension and coronary heart disease ( $p=NS$ ). Among investigated laboratory tests only serum potassium ( $r= -0.143$ ;  $p=0.05$ ) and serum creatinine ( $r= 0.181$ ;  $p=0.01$ ) have shown significant correlation with residual diuresis. Additionally, duration of HD ( $r= -0.339$ ;  $p<0.0001$ ), presence of diabetes ( $-0.173$ ;  $p=0.02$ ), weekly intradialytic weight gain ( $r= -0.185$ ;  $p=0.01$ ) and hypotensive episodes during HD procedures ( $r= -0.188$ ;  $p=0.009$ ) showed significant negative correlation with residual diuresis. On the other hand, cardiothoracic index ( $r=0.217$ ;  $p=0.01$ ), diuretics use ( $r=0.326$ ;  $p<0.0001$ ), daily diuretic dose ( $r=0.276$ ;  $p=0.0001$ ), use of ACE-I/ARBs ( $r=0.148$ ;  $p=0.04$ ) and calcium channel blockers (CCB) ( $r=0.152$ ;  $p=0.03$ ) as well as systolic blood pressure (SBP) before ( $r=0.148$ ;  $p=0.04$ ) and after HD ( $r=0.263$ ;  $p=0.0002$ ) as well as diastolic blood pressure (DBP) before the start of HD treatment ( $r=0.149$ ;  $p=0.04$ ) and DBP after HD procedures ( $r=0.244$ ;  $p=0.0007$ ) have shown significant positive correlation with residual diuresis.*

Characteristic	r	p
Dry weight (kg)	0.131	NS
High or low flux membrane (yes vs. no)	0.019	NS
Weekly intradialytic weight gain (kg)	-0.185	0.01
Hypotensive episodes (yes vs. no)	-0.188	0.009
SBP before HD (mmHg)	0.148	0.04
SBP after HD (mmHg)	0.263	0.0002
DBP before HD (mmHg)	0.149	0.04
DBP after HD (mmHg)	0.244	0.0007

## CONCLUSION

*Use of diuretics, ACE-I/ARBs and CCB and weekly intradialytic weight gain, as well as SBP and DBP before the HD, and especially SBP and DBP after the start of dialysis treatment were significantly associated with preserved renal function.*

