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Utility of Captopril Renography in Diagnosis of Renal Dysfunction in Liver Cirrhosis

SH KIM*, YA CHUNG, IR YOO, EN KIM, YH PARK, HS SOHN, SK CHUNG

Nuclear Medicine, The Catholic University of Korea, Seoul, Korea

Objectives: To evaluate the utility of captopril renography(CR) to detect early renal dysfunction in patients with different grades of liver cirrhosis. **Methods:** Thirty cirrhotic patients(19 men and 11 women with mean age of 55.7 yr) were included. The degree of cirrhosis was evaluated according to Child-Pugh classification; grade A in 3, B in 19 and C in 8. Baseline renography(BR) and CR were performed using ^{99m}Tc-MAG3, and serum creatinine(Cr), renin, aldosterone and 24 hr urine sodium(U-Na) were measured on the same day or 1 day before CR. The peak time(PT) and 3 min to 20 min activity ratio(K20/3) were obtained from the whole-kidney(WK) and parenchymal(P) renograms. We evaluated the difference between renogram indices in different grades of liver cirrhosis, and correlated laboratory data with renogram indices. **Results:** The results were shown in table. The renogram indices became abnormal on CR in 5 out of 19 patients with grade B and in 7 out of 8 with grade C. There are significant correlations between renin and WK-PT on CR($r=0.625$, $p<0.01$), and aldosterone and PT on CR($r=0.755$, $p<0.01$). **Conclusion:** Captopril renography is capable of detecting early renal dysfunction in cirrhotic patients, which may explain the related pathogenesis.

	WK-PT		WK-K20/3		P-PT		P-K20/3					
	BR	CR	BR	CR	BR	CR	BR	CR	Renin	Aldo	U-Na	Cr
A R	3.84	4.99	0.44	0.60	2.91	3.56	0.24	0.32	15.8	248	24.5	0.83
L	3.49	5.72	0.40	0.49	2.41	3.91	0.23	0.34				
B R	4.64	7.57	0.44	0.70	3.77	6.47	0.39	0.63	14.32	78.3	72.5	0.88
L	4.95	7.80†	0.47	0.69‡	3.70	6.36*	0.39	0.61¶				
C R	5.39	17.2	0.66	1.46	6.42	16.8	0.65	1.32	17.22	204	23	1.00
L	6.71	19.5†	0.67	1.46‡	7.43	15.9*	0.63	1.19¶				

{* † ‡ ¶: $p<0.01$, Renin (N: 1.0-2.5ng/ml), Aldosterone (N:40-120 pg/ml), U-Na (N:40-220 mEq/L)}