

경증 및 중등도 본태성 고혈압 환자에서 Telmisartan (Micardis®)의 강압효과 및 임상적 안전성에 대한 연구

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A Clinical Study on Anti-Hypertensive Effect and Safety of Telmisartan(Micardis®) in Mild to Moderate Hypertensive Patients

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ABSTRACT

Background and Objectives : Telmisartan (Micardis®), a selective type angiotensin receptor blocker, has recently been introduced as a new antihypertensive agent. We evaluated its anti-hypertensive effect and safety in mild to moderate hypertensive patients. **Materials and Methods :** Telmisartan, 40 mg, was started once a day over the 4 week period in 45 patients with mild to moderate hypertension (35 male, mean age : 54.9 ± 8.7 years). The dose was maintained in the patients whose blood pressures were controlled below 140/90 mmHg for the following 4 weeks. In those patients whose blood pressures did not fall below 140/90 mmHg, the dose was doubled to 80 mg per day for the following 4 weeks. Blood pressures were assessed at the 8th week of administration. For safety evaluation, laboratory tests were performed before and after treatment with telmisartan. Changes in heart rate and electrocardiogram were also observed. **Results :** 1) The mean blood pressures in the sitting position were 161.6 ± 14.7 mmHg (systolic) and 102.4 ± 4.3 mmHg (diastolic) before treatment, which were lowered to 139.5 ± 15.8 mmHg and 90.2 ± 8.0 mmHg respectively after 8 weeks of treatment (p < 0.05). 2) Heart rate was not significantly changed after treatment with telmisartan compared to pre-treatment (72.5 ± 7.2/min vs. 71.7 ± 7.5/min ; p > 0.05). 3) Laboratory tests revealed no significant abnormality by the treatment with telmisartan. 4) No significant side effects were observed during the treatment period. **Conclusion :** Telmisartan, 40 mg or 80 mg, once a day induced significant reduction in systolic and diastolic blood pressures without significant side effects in the patients with mild to moderate hypertension. Telmisartan is thought to be a well tolerated and effective antihypertensive agent. (**Korean Circulation J 2000;30(10):1264-1270**)

KEY WORDS : Hypertension · Angiotensin receptor blocker · Telmisartan.

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서론

가 1.7 mg/dl, AST, ALT가 2+
가
1)2)
가

prostaglandin, bradykinin, substance P

방법

telmisartan 40 mg
11
1 wash-out
2 1 1
가
3)4)
가
2 4

가 가

X

7 11

ardis®) 8
가
telmisartan (Mic-

가

28

대상 및 방법

대상

1997 Joint National Co-
mmittee

2000 1 2000 5

5

2

3

4

18 80
95 109 mmHg 46

90 mmHg telmisartan 40 mg
, 90 mmHg 80 mg

1

4

45 가
2가

가
가

, NYHA ,

10 mmHg ,

20 mmHg
5 9 mmHg, 10 19 mmHg

결 과

임상적 양상

90 mmHg

Table 2

(Table 1).

1 8
, 2
paired t - test 8

혈압 및 심박동수의 변화

(161.3 ± 14.7 mm Hg, 102.4 ± 4.3 mmHg) telmisartan 4 (144.8 ± 18.4 mmHg, 91.6 ± 9.0 mmHg) 8 (139.0 ± 15.6 mmHg, 89.8 ± 8.1 mmHg)

(p < 0.05 vs.

8

(Fig. 1).

ated measures ANOVA)

(repe -

(72.6 ± 7.3 , 4 72.4 ± 7.7 , 8 71.6 ± 7.5)가

. P 0.05

강압효과의 판정

, ±

8

Table 1. Classification of antihypertensive effect according to changes of mean blood pressure

	Decreased	Tendency to decreased	No change
Mean blood pressure (mmHg)	< - 13	- 12 - - 7	- 6 - 6
Mean blood pressure =	$\frac{2 \times \text{diastolic pressure} + \text{systolic pressure}}{3}$		

(102.4 ± 4.3 mmHg vs. 89.8 ± 8.1 mmHg ; p = 0.0001).

8

40 87.0% , 21.3 mm Hg 12.6 mmHg, 90 mmHg 63.0%

Table 2. Clinical characteristics of the study subjects

	Number (n = 45)
Sex	
M/F	35/10
Age (yr)	54.9 ± 8.7
Body Wt (kg)	69.2 ± 9.2
Height (cm)	167.4 ± 6.8
Hypertension	
Stage 1	9
2	36
History of hypertension	
Yes	35
No	10

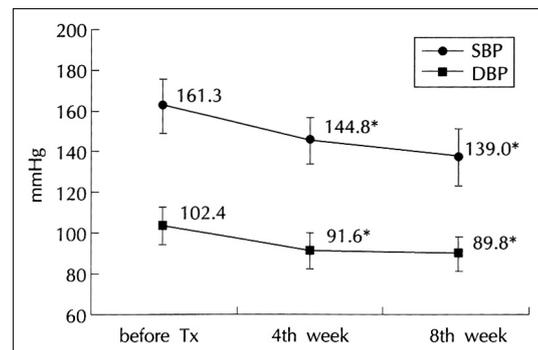


Fig. 1. Systolic and diastolic pressures decreased after 4 weeks and 8 week periods of telmisartan administration. * : p < 0.05 ; baseline vs. 4 & 8 week. DBP : diastolic blood pressure, SBP : systolic blood pressure.

Table 3. Result of the laboratory tests

	Before	After 8weeks*
Hemoglobin (g/dL)	14.8 ± 1.4	14.6 ± 1.4
Hematocrit (%)	43.1 ± 4.0	42.5 ± 3.9
Platelet (×103/uL)	251.6 ± 41.7	252.0 ± 51.3
WBC (×103/uL)	7.01 ± 1.86	6.59 ± 1.70
Lymphocyte (%)	29.3 ± 9.3	30.75 ± 6.9
Monocyte (%)	5.69 ± 1.26	5.87 ± 1.72
Neutrophil (%)	61.0 ± 10.7	58.8 ± 8.4
Eosinophil (%)	3.43 ± 4.51	4.12 ± 4.62
Basophil (%)	0.58 ± 0.35	0.56 ± 0.35
BUN (mg/dL)	15.01 ± 3.54	15.20 ± 3.25
Creatinine (mg/dL)	1.14 ± 0.17	1.03 ± 0.17
Na (mmol/L)	141.9 ± 1.8	142.9 ± 2.7
K (mmol/L)	4.22 ± 0.36	4.47 ± 0.47
SGOT (IU/L)	28.4 ± 15.5	24.8 ± 16.1
SGPT (IU/L)	27.8 ± 7.5	24.4 ± 7.6
Alk. Phos. (IU/L)	78.1 ± 19.1	79.8 ± 18.4
Glucose (mg/dL)	96.8 ± 14.4	94.0 ± 10.2
Uric acid (mg/dL)	5.46 ± 1.30	5.51 ± 1.21
Cholesterol (mg/dL)	209.0 ± 26.8	207.4 ± 31.8
Triglyceride (mg/dL)	120.9 ± 72.3	207.4 ± 81.2

* : p>0.05 vs . before treatment

안전성

안정성, 2, 1, 가, 가, 10, ST-T, 2

가, 가, 1 (2.1%), 12, 고, 찰, 가, 가, 가, 가, type, (antinatriuresis), type, (apoptosis), (natriuresis) nitric oxide, 5), kininase, bradykinin, substance P, (proinflammatory), cardiac chymase, cathepsin G, (non - ACE pathway), 6), type, 가, 가

7-9) 가 (angioedema) 가 (tolerability) 23) 207 6 , telmisartan, losartan telmisartan 1 80 mg losartan telmisartan 80 mg 46. 2%, losartan 28% 22) telmisartan , 8 87% 가 가 losartan telmisartan (flat dose response curve) 50 mg 가 가 17)18) telmisartan type 3% 24)25) 가 4. misartan 50% . 가 alpha-1 acid glycoprotein glucuronide 20 가 578 telmisartan lisinopril 52 8 telmisartan 16.3 mmHg, lisinopril 15.4 mmHg telmisartan 가 telmisartan lisinopril 2 . 20) Lisinopril telmisartan 88 8 연구목적 : telmisartan lisinopril 60%, telmisartan 15. 가 21) Telmisartan enala-

대상 및 방법 :

45 (: 35,
: 10, : 54.9 ± 8.7)
telmisartan 40 mg
80 mg 8

결 과 :

1) Telmisartan 161.3 ± 14.
7 mmHg, 102.4 ± 4.3 mmHg ,
4 144.8 ± 18.4 mmHg, 91.6 ± 9.0
mmHg 8 139.0 ± 15.6
mmHg, 89.8 ± 8.1 mmHg
(p < 0.05).
2) 72.6 ± 7.3 , 4
72.4 ± 7.7 8 71.7 ±
7.5 (p > 0.05).

3)

4)

결 론 :

8 40 mg 80 mg telmisartan

중심 단어 :

Telmisartan.

감사문 _____
Study Coordi-
nator

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