

심한 이형 협심증 환자에서 경구 Nitric Oxide Donor(Molsidomine) 효과

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The Effects of Oral Nitric Oxide Donor (Molsidomine) in Patients with Variant Angina Unresponsive to Conventional Anti-Anginal Drugs

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ABSTRACT

Background : We observed the changes of clinical characteristics after oral Molsidomine, a nitric oxide donor, in patients who have documented coronary artery spasm by ergonovine coronary angiogram and refractory to conventional anti-anginal therapy. **Method** : Molsidomine, oral nitric oxide donor, was administrated over 12 weeks in 20 patients (6 male, 14 female, 54 ±11.5 years) in order to observe the clinical effects in patients with coronary artery spasm unresponsive to nitrate and calcium channel blockers. Changes in the frequency of pain and sublingual nitroglycerin use, blood pressure, heart rate, side effects, electrocardiogram, and laboratory findings were evaluated before and after Molsidomine therapy. **Results** : The frequencies of pain and sublingual nitroglycerin use were 3.9 ±0.9/week before treatment and decreased to 2.9 ±0.9/week at 4th week after the additional Molsidomine treatment (pre-treatment vs. 4th week ; p<0.001), to 1.0 ±0.8/week at 8th week (4th week vs. 8th week ; p<0.001), and to 0.7 ±0.8/week at 12th week. Systolic blood pressure decreased after treatment, but there were no significant changes in diastolic blood pressure, heart rate, resting electrocardiogram and laboratory findings. Molsidomine was discontinued in one patient because of headache. **Conclusions** : Molsidomine is an effective and well tolerated anti-ischemic agent in patients with variant angina refractory to conventional anti-anginal therapy. (**Korean Circulation J 1998;28(9):1577-1582**)

KEY WORDS : Molsidomine · Variant angina.

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2) Molsidomine 124 ± 16.2 mmHg, 4 121 ± 16.4 mmHg, 8 120 ± 14.2 mmHg, 12 121 ± 14.1 mmHg, 79 ± 13.1 mmHg, 77 ± 9.0 mmHg, 77 ± 9.6 mmHg, 77 ± 9.7 mmHg. 72 ± 7.3, 71 ± 5.1, 71 ± 5.5, 71 ± 5.5 (p < 0.005, p < 0.05, p < 0.05)

3) Molsidomine 12 5.09 ± 0.60, 5.09 ± 0.60 × 10³/mm³, 248 ± 25.1, 240 ± 27.6 × 10³/mm³, AST 15 ± 4.9, 17 ± 35 U, ALT 21 ± 2.1, 25 ± 2.4 U, BUN 13.4 ± 1.6, 13.5 ± 2.1 U, creatinine 0.7 ± 0.14, 0.9 ± 0.21 U, 200 ± 7.1, 20 1 ± 4.9 mg/dl, 135 ± 9.6, 137 ± 3.5 mg/dl, 48 ± 2.8, 50 ± 2.8 mg/dl

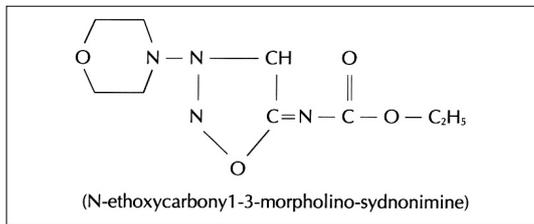


Fig. 1. The chemical structure of Molsidomine.

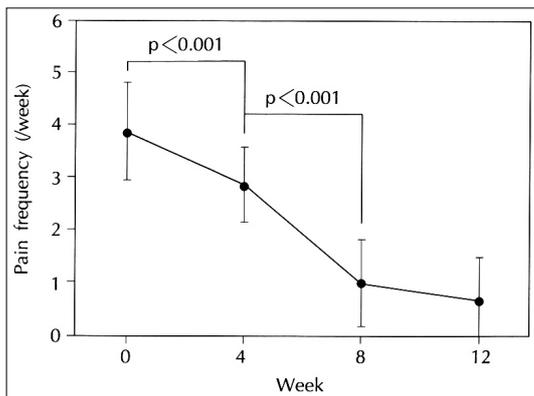


Fig. 2. Frequency of angina requiring sublingual nitroglycerin decreased at 4 and 8 weeks after Molsidomine treatment (p < 0.001).

가 . Molsidomine 7 , ST 1 , T 7 , 3 , 1 , 1 , Molsidomine 가 . 4) Molsidomine 18 6 mg 2 4 8 mg . Molsidomine

3.9 ± 0.9 , 4 2.9 ± 0.7 , 8 1.0 ± 0.8 , 12 0.7 ± 0.8 4 가 (p < 0.001), (Fig. 2).

5) 21 1 Molsidomine 가 (4.8%), 2 .

고 안

Molsidomine의 약리작용

Molsidomine SIN - 1 , SIN - 1A . SIN - 1A가 16)17) gu - nylate cyclase cGMP 가 . cGMP lene blue cGMP 가 methy - SIN - 1 , M & B 22,948 cGMP phosphodiesterase SIN - 1 16) .

임상효과

Molsidomine , 가 10 - 16)21 - 24) Majid 11) Molsidomine

Molsidomine 가 , ST 가 .
 , Messin ²⁵⁾ SIN - 1 SIN - 1A
 Molsidomine 4 mg 8 mg cGMP 가 가
 cGMP 46/50 kDa 가 ,²⁹⁾
 8 mg 가 ,³⁰⁾ IIb/IIIa
 P - selectin Jeong ²⁷⁾ 15
³¹⁾
 Molsidomine Molsidomine
 , Weber ¹⁵⁾ ,
 Molsidomine , Dalla - Volta ²⁶⁾ 33 , 48
 Molsidomine 6 8 mg
 내성 발현 SIN - 1
 Molsi - 가 guanylate cyclase
 domine 가 cysteine s - nitrosothiols
 , Molsidomine , SIN - 1 가 ,^{18 - 20)}
 , Aptecar ¹²⁾ Lehmann ³²⁾ ISDN Mo -
 12 isosor -
 bid dinitrate(ISDN) Molsidomine 24 , Molsi -
 가 가 domine 가 ,
 Molsidomine 24
 가 가
 Molsidomine 5 ISDN 2 Molsidomine 가
 , Molsidomine ,
 Jeong ²⁷⁾ Molsidomine 4 가 2 1
 12
 부작용
 Renard ²⁸⁾ Molsidomine 가
 8 mg Molsidomine ,
 가 가
³³⁾ Dalla - Volta ²⁵⁾ 10%
 Molsidomine 1
 , 2

본 연구의 제한점
Molsidomine

4 4 8 8
가 (p<0.001),
1

결 론 :
Molsidomine

(cost effectiveness)
가 3
Molsid -
omine , Molsi -
domine

중심 단어 : Molsidomine

요 약

연구배경 :
가 가 NO donor Molsidomine
(Molsiton®)

대상 및 방법 :
(6 , 14 ; 54 ± 11.5)
Molsidomine 1 6 m
4 1 8 mg

결 과 :
124 ± 16.2 mmHg, 4
121 ± 16.4 mmHg, 8 120 ± 14.2 mmHg, 12
121 ± 14.1 mmHg
(p<0.005, p<0.05, p<0.05),

가 Molsidomine
3.9 ± 0.9 4 2.9 ± 0.7 , 8
1.0 ± 0.8 , 12 0.7 ± 0.8

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