

Meloxicam 가 Diclofenac

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Abstract

The Comparison of Clinical Efficacy and Safety of Meloxicam versus Diclofenac in Korean Patients with Osteoarthritis of the Knee ; Open Multicenter Comparative Randomized Trial

Jungsik Song, M.D., Yong-Beom Park, M.D., Soo-Kon Lee, M.D.,
 Hong-Joon Ahn, M.D.*, Yun-Woo Lee, M.D.*, Chang-Keun Lee, M.D.**,
 Jae-Hyun Koh, M.D.**, Eun-Mi Koh, M.D.**,
 Eun-Young Lee, M.D.***, Choong-Ki Lee, M.D.***

*Division of Rheumatology, Department of Internal Medicine, College of Medicine,
 Yonsei University, Inje University*, Samsung Medical Center of Sungkyunkwan University**,
 Yeungnam University***, Korea*

Objective: To assess the clinical efficacy and safety of meloxicam 7.5mg versus diclofenac 100mg slow release (SR) in the Korean patients with osteoarthritis of the knee.

Methods: Ninety-one patients of four university hospitals in 1999 were randomized to receive once daily oral meloxicam 7.5mg (N=45) or diclofenac 100mg SR (N=46) for 8 weeks. Clinical efficacy was evaluated using 100mm Visual Analogue Scale (VAS) for pain, Lequesne index after 4, 8 weeks of treatment

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Tel : (02) 361-5460, Fax : (02) 393-6884, E-mail : sookonlee@yumc.yonsei.ac.kr

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as well as the physician's and patient's global assessment at the end of treatment. Evaluations for clinical safety were performed using the incidence of adverse events, physical examinations, laboratory finding and total ingestion of antacid during the treatment.

Results: After 8 weeks of therapy, both groups had significant improvement in 100mm VAS and Lequesne index than baseline although the difference between two groups did not reach statistical significance. The physician's and patient's global assessment were similar in two groups. The incidence of gastrointestinal adverse events was significantly lower in meloxicam group (24.4%) than diclofenac group (50.0%)(p<0.05).

Conclusion: Meloxicam 7.5mg is comparable to diclofenac 100mg SR in the treatment of Korean patients with osteoarthritis of the knee. Furthermore meloxicam 7.5mg was well tolerated for 8 weeks and has safe advantage of a significantly lower incidence of gastrointestinal adverse events.

Key Words : Osteoarthritis, Meloxicam, Diclofenac

가
NSAID 50%
1,2)
COX 가 isoform (COX-1 COX-2)
(anti-inflammatory drugs)
COX-2
75
가
COX-1
COX-2
3)
Meloxicam () oxicam
NSAID COX-2
acetaminophen
(non-steroidal anti-inflammatory drugs; NSAID)가
4-7)
COX-2 COX-1
NSAID , NSAID , , IC₅₀ (concentration that inhibit an effect by 50%) 0.33 piroxicam 33,
NSAID cyclooxy indomethacin 31 8)
genase (COX) prostaglandin , COX
prostaglandin , 1 1 3~5
, COX가 NSAID 9). piroxicam(1), tenoxicam(2

) , , 가

99%

50%,

50%

- : SGPT(40U/L), SGOT(40U/L)가 2

^{8,9)}

7.5mg 15mg 1

4,011

13

piroxicam

diclofenac (

- : <100,000/mm³, <3,000/mm³

), naproxen

^{5-7,10,11)}

NSAID

가

meloxicam

가

2

1.

1999

4

11

4

1

가

가

101

(

2.

25

25

25

26

(randomization method) (open comparative clin-

ical trial)

scale (VAS)

Lin

¹²⁾

7.5mg 1 1

100mg

가

가

가

가

1

1

33

30%

100

18

(acetaminophen)

가

7

wash-out

3가

1가

30

8

4

8

50

1가

가

가

hydro

가

talcite

3. 가 ()
()

8
(primary endpoint)
(secondary endpoint)

4.

100mm VAS . 100mm VAS
0

VAS
Lequesne index 가,
가,

100 가
가
VAS

Treat (ITT) 'Intent-To-
가

VAS score

'Per-Protocol (PP) 가
가

Lequesne index

100mm VAS Lequesne index
paired t-test 가
extended Mantel-
Haenzel mean score statistics

, index , 가 3
가 가 가
13,14) 가

Fishefs exact test

SAS (Windows)

가 가

8

p 0.05

(, , , , , ,)
가
가

1.

101 가
10

X-ray
. 91 가
11 가

가 가
hydrotalcite

5

3 , 1 ,

1
1 () ,

가 가 . 2 (, ,)

()

80 8

Table 1. Disposition of the patients

	Meloxicam(n=45)	Diclofenac(n=46)
Screened		101
Entered	45	46
Completed	39(86.7%)	41(89.1%)
Protocol violation	2(4.4%)	6(13.0%)
Discontinued	6(13.3%)	5(10.9%)
Clinical adverse events	1(2.2%)	2(4.3%)
Lack of efficacy	0	1(2.2%)
Withdrawal of informed consent	0	1(2.2%)
Protocol violation	1(2.2%)	0
Lost to follow up	4(8.9%)	1(2.2%)

Table 2. Patient demographics before treatment

	Meloxicam(n=45)	Diclofenac (n=46)	p-value*
Sex(M:F)	2:43	2:44	NS†
Age(year)	62.0±7.9	58.8±7.4	0.048
Body weight(mean±SD)(kg)	63.2±8.6	61.9±8.5	NS
Body height(mean±SD)(cm)	155.4±6.2	156.0±5.8	NS
Pain score(mean±SD)(cm)	6.7±1.6	6.3±1.6	NS
Lequesne index(mean±SD)	10.8±2.9	10.7±3.3	NS
Previous medication for OA(n)	24	21	NS
Patients with GI disorders(n)	3	3	NS

* Unpaired t-test

† Fisher's exact test

NS: not significant

wash-out

(1). (2).

Intent-To-Treat 가 가 3 가

91 , Per-Proto-

col 가 72 2. 가

가 (VAS)

91 8 VAS VAS

Intent-To-Treat 가 VAS

(p=0.048), 가 67.1±16.4mm, 8 42.1±20.8mm

(100mm VAS) (: 25.0±18.5mm)

가 VAS가 63.4±15.6mm,

(44.4±20.1mm (: 19.0±18.2mm)

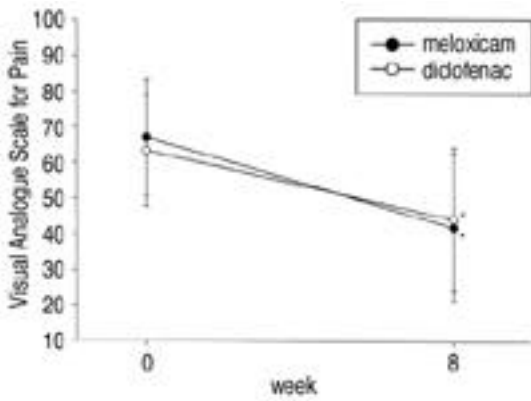


Fig. 1. Change of visual analogue scale for pain of two groups after treatment over study periods (*p<0.01; paired t-test)

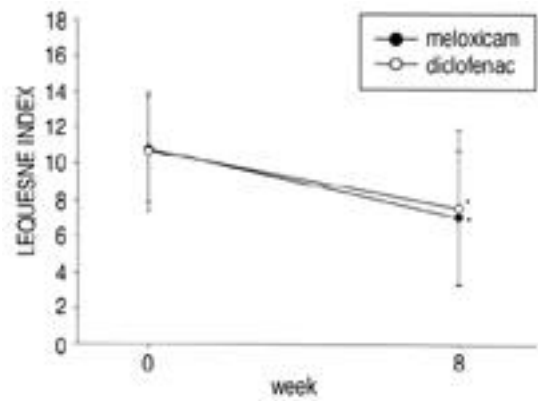


Fig. 2. Change of Lequesne index of two groups after treatment over study periods (*p<0.01; paired t-test)

Table 3. Global assessment at the final visit as assessed by patients and physicians (Per-protocol analysis)

	Patient assessment		Physician assessment	
	Meloxicam n(%)	Diclofenac n(%)	Meloxicam n(%)	Diclofenac n(%)
Excellent	13(33.3)	9(22.0)	9(23.1)	7(17.1)
Good	24(61.5)	27(65.9)	28(71.8)	29(70.7)
No improvement	2(5.1)	5(12.2)	2(5.1)	5(12.2)
p-value*	0.170		0.271	

* Extended Mantel-Haenzel mean score statistics

(1).
 Lequesne index
 8
 가가가 39
 9 (23.1%), 28 (71.8%),
 2 (5.1%), 41
 7 (17.1%), 29 (70.7%), 5 (12.2%)
 Lequesne index 가 . (3).
 3.8±3.1
 (0 :10.8±2.9 , 8 :7.1±3.7) ,
 3.1±3.9 (0 :10.7±3.3 , 8 :7.6±
 4.3)
 가 8
 가 (, , , ,)
 가 . 가 가 3 1 (, , ,)
 가가가) , (, , ,)
 39 13 (33.1%), 24 2 .
 (61.5%), 2 (5.1%),
 41 9 (22.0%), 27 (65.9%), 5 , 가
 (12.2%) 가 . 가 , .

Table 4. Adverse events during the study period

	Meloxicam (n=45)	Diclofenac (n=46)
Gastrointestinal*	11(24.4%)	23(50.0%)
hunger pain	6(13.3%)	10(21.7%)
epigastric discomfort	2(4.4%)	5(10.9%)
dyspepsia	4(8.9%)	9(19.6%)
nausea	1(2.2%)	0
epigastric pain	1(2.2%)	2(4.3%)
constipation	0	1(2.2%)
bloating	0	1(2.2%)
Others		
edema	0	1(2.2%)
general weakness	0	1(2.2%)
skin rash	1(2.2%)	0
Total adverse event	11(24.4%)	23(50.0%)

*p=0.017, Fisher's exact test

Table 5. Changes in laboratory variables* after treatment (Per-protocol analysis)

	Meloxicam(n=38)	Diclofenac(n=41)
Hematocrit(%)	0.04±2.09	-0.52±2.15
AST(IU/L)	4.9±1.3	2.0±6.8
ALT(IU/L)	1.2±9.2	6.4±11.3
-GT(IU/L)	0.42±10.9	4.61±9.35
Total protein(g/dL)	-0.01±0.34	0.01±0.40
BUN(mg/dL)	1.4±4.9	0.1±4.8
Creatinine(mg/dL)	-0.01±0.12	0.02±0.10
Total cholesterol(mg/dL)	-4.3±20.2	10.6±24.4

*: Mean ±SD of changes between baseline data and 2 months follow-up data

6 (13.3%), 10 (21.7%), 4(8.9%), 9(19.6%), 11 (24.4%) (50.0%), 4, 1 (4).

23, 28 (61.0%), 21 (46.7%), (46), 9.2±7.7, 10.2±7.2

(45), (5).

가

가
, Lequesne index

15,16)

가

가

Lequesne index
index

가

13,14)

24.4%,

50.0%

Lequesne index가

가

19-21)

Lequesne index meloxicam
(1997)

3

가

13.3%

21.7%, 8.9%

가

Lequesne index
가

19.6%

11)

NSAID

COX-2

(9,323)

7.5

COX-1

mg

100mg

가 3)

meloxicam, celecoxib,

MELISSA (Meloxicam Large-scale International Study Safety Assessment) study

rofecoxib

COX-2

COX-2

13%, 19%

COX-2

NSAID

17)

가

SELECT (Safety and Efficacy Large-scale Evaluation of Cox-inhibiting Therapies) study

NSAID

COX-2

NSAID

(15.4%)

NSAID

(10.3%)

18)

가

COX-2

가 65

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