

marcaine

Availability of Intradiscal Injection of Marcaine as a Pain Relief Test for Diagnosis of Internal Disc Disruption

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– Abstract –

Study Design: A retrospective study

Objectives: To investigate the availability of an intradiscal injection of marcaine as a pain relief test to enhance specificity in the diagnosis of IDD.

Summary of Literature Review: The diagnosis and treatment of IDD have been controversial. A discography, which has been widely used for the diagnosis of IDD, has many problems that might result in a faulty diagnosis.

Materials and Methods: Twenty nine patients, with an average age and duration of symptom of 36.9 years (22 to 46 years) and 5 years 1 month (6 months to 10 years), respectively, were reviewed. After the discography, the marcaine was injected. Based on the responses after the injection, the group was sub-divided into a further two groups.

Group A (n=19): transient pain relief and surgical treatment was performed.

Group B (n=10): no pain relief and conservative treatment was performed.

An analysis to examine the correlation between the response to marcaine and age, duration of symptom, subjective pain level, number of disc degeneration and high intensity zone was also performed, and the clinical results quantified.

Results: The agreement rate between the discography and response to marcaine was 55.2%. The longer the symptom duration, the more meaningful were the responses to the marcaine injection ($p<0.05$). The result of surgical treatment was important statistically, as the pain was relieved from 8.6 ± 0.97 to 1.8 ± 0.42 points, and the ODI decreased from 68 ± 16.92 to $30 \pm 9.97\%$ ($p<0.05$).

Conclusions: An intradiscal injection of marcaine, as the pain relief test, can enhance the specificity for the diagnosis of IDD.

Key Words: IDD, Pain relief test, Intradiscal injection of marcaine.

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가
(atypical pain)
(concordant pain) 3
가
0.25% marcaine(long-acting bupivacaine) 1.5
ml
12
16 A
6 MRI
13 B
(pain provocation MRI high
test) intensity zone(HIZ)
A B
가 1 가
6,7,8)
(pain relief test) 26.5 (12~56)
10 (10-point pain scale)
가
Oswestry 가
Oswestry disability index(ODI)
marcaine marcaine
Fisher 's exact test Wilcoxon signed
rank test , SPSS v.11.0

1999 7 2003 3
(symptomatic single level)
29
19 , 10 , 36.9 (22~46)
, 5 1 (6 ~10)
6
,
,
,
, MRI
(p>0.05)(Table 1,3), mar-
caine 가
(p<0.05)(Table 2). MRI mar-
caine
(p>0.05)(Table 4). HIZ 11 (37.9%)
A 3 , B 8
(p>0.05)(Table 5). A
8.6 ± 0.97 1.8 ±
0.42 (1-2) , ODI 68 ± 16.92%
30 ± 9.97%
(p<0.05)(Table 6).
가 B 8.3 ± 1.58
가 4.9 ± 2.53 , ODI

59.4 ± 19.48% 29.4 ± 22.56%

, 가
(p>0.05)(Table 7).

가 9.

(sinuvertebral nerve)

가 stress pattern 가

Table 1. Correlations between age and response of marcaine

age	Group A	Group B	Total
-30	3	3	6
31-35	2	3	5
36-40	3	3	6
41-	8	4	12

* Group A : Marcaine(+), Group B : Marcaine(-) (p>0.05)

Table 2. Correlations between duration of symptom and response of marcaine

Duration of Sx	Group A	Group B	Total
Below 2 years	4	7	11
2-5 years	3	3	6
Above 5 years	9	2	11

* Group A : Marcaine(+), Group B : Marcaine(-) (p<0.05)

Table 3. Correlations between subjective pain and response of marcaine

10 point pain scale	Group A	Group B	Total
7	4	4	8
8	4	4	8
9	5	3	8
10	3	2	5

* Group A : Marcaine(+), Group B : Marcaine(-) (p>0.05)

Table 4. Correlations between No. of degenerative disc and response of marcaine

degenerative disc	Group A	Group B	Total
1 segment	6	7	13
2 segments	5	3	8
3 segments	3	2	5
4 segments	2	1	3

* Group A : Marcaine(+), Group B : Marcaine(-) (p>0.05)

Table 5. Correlations between HIZ and response of marcaine

	Group A	Group B	Total
HIZ (+)	3	8	11
HIZ (-)	13	5	18

* Group A : Marcaine(+), Group B : Marcaine(-) (p>0.05)

* HIZ = High-intensity zone

2,10-12) . Gibson²⁰⁾ Schneider²¹⁾ MRI , Par-
가 13) fenchuck 22) MRI 가
가 , April 23) MRI T2-
weighted image high-intensity zone(HIZ) 82%
가 89%
MRI HIZ
가 HIZ가
14-16) Holt¹⁷⁾ 36% 24,25)
, Simmons¹⁸⁾ (technique) MRI,
Weinstein¹⁹⁾
, Walsh¹⁹⁾ 0% 100%
가 Nachemson⁶⁾ ,
가 marcaine(long-acting bupivacaine)
marcaine
가 , marcaine
grey zone
(sedation)
가 marcaine
(adjacent control 가
discordant 가
level) , Carragee⁸⁾

Table 6. Outcomes of treatment results in Group A1

	Preop.	Last F/U
10-point pain scale	8.6 ± 0.97	1.8 ± 0.4
ODI	68 ± 16.92%	30 ± 9.97%
* ODI : Oswestry Disability Index		(p<0.05)

Table 7. Outcomes of treatment results in group B1

	Initial	Last F/U
10-point pain scale	8.3 ± 1.58	4.9 ± 2.53
ODI	59.4 ± 19.48%	29.4 ± 22.56%
* ODI : Oswestry Disability Index		(p>0.05)

- , Smith ²⁶⁾ 40~60% , 40~60% 6 가 . 가 , . 가 . . marcaine 가 painful disc가 , . 가 marcaine . , , 9 가 4 , . marcaine 가 5 marcaine . marcaine 가 . 가 , . , IDET, Simmons ²⁷⁾ marcaine 9% , 27% marcaine , Nelemans ²⁸⁾ 가 marcaine (pain relief test) , . 가 . . 55.2% 2 , marcaine , 12 , .
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