

# Percutaneous Dorsal Root Ganglion Block for Acute Low Back Pain from Lumbar Osteoporotic Compression Fracture

weichao Huang; Jen-Tsung Yang; Ming-Hsueh Lee; Chien-Min Chen; Ping-Jui Tasi; Yu-Jen Kuo; Wei-Yuan Cheng; Chih-Hao

Kao

Department of Neurosurgery, Chang Gung Memorial Hospital, Chia-yi

## Introduction

The pain of acute compression fracture may be refractory to conservative treatment. Interventions such as vertebroplasty or transpedicle screw-fixation and fusion may be effective, but complications such as chemical leak, adjacent segment instability are common. Percutaneous dorsal root ganglion block is an alternative therapeutic option, in this study, we evaluated its efficacy and associated complications.

## Methods

A retrospective review of 45 patients with lumbar compression fracture from 2013 to 2015 was performed. Patients treated with percutaneous transforaminal dorsal root ganglion block with xylocaine / triamcinolone, and complete image studies (dynamic lateral X-ray, bone mineral density, and MRI) were included, and those with failed back syndrome, ruptured disc, infection, cancer or dementia were excluded. Treatment response evaluated by NRS was collected, and an optimal outcome, acceptable outcome and unfavorable outcome were analyzed.

## Results

Of the 43 patients treated, the changes in mean NRS score to the baseline at day-1 was -5.5 (95 % CI -4.9 ~ -6.2,  $p < 0.001$ ), one week -5.5 (95 % CI -4.9 to -6.2,  $p < 0.001$ ), one month -5.3 (95 % CI -4.6 to -6.0,  $p < 0.001$ ), and one year -5.4 (95 % CI -4.7 to -6.3,  $p < 0.001$ ) were all statistically significant. An optimal outcome was achieved in 35% (15 out of 43) on day-1, 37% (16 out of 43) in 1 week, 40% (17 out of 43) in 1 month, and 44% (19 out of 43) in 1 year. No adjacent compression fracture was found during 1 year follow up in dorsal root ganglion block alone group.

## Conclusions

Percutaneous dorsal root ganglion block is an easy and safe option for immediately pain relief in lumbar osteoporotic compression fracture patients who failed conservative treatment. The continuous medication for osteoporosis was still demanded.

## Learning Objectives

(1) long term (1 year) and short term (post op 1 day) outcome were no difference under percutaneous dorsal root ganglion block in lumbar compression fracture  
 (2) no adjacent compression fracture complication was noted after percutaneous dorsal root ganglion block

## References

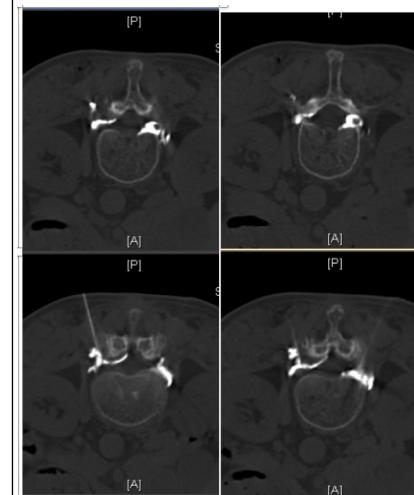
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Table 1

Total patients(n)	43
Age (years)	76.5+/-7.1
Gender (female)	40
Height(cm)	152.6+/-6.5
Body weight(Kg)	57.84+/-10.6
BMI	24.7+/-3.7
Initial NRS score	9.42+/-0.8
Bone density T score	-2.94/-1.3
Use of osteoporosis medication(%)	29/43 (67%)
Normal(n)	4
osteopenia(n)	9
osteoporosis(n)	30
Instrumentation history, non lesion site (n)	18
Numbers of vertebrae treated	
2 level	1
3 level	37
4 level	3
5 level	2
Number of compression fracture	
L1	21
L2	10
L3	7
>2 level	5
Subgroups of patients	
Previous vertebroplasty history(n)	6
Vertebroplasty after DRG block	3
Repeated DRG block	6(2 received vertebroplasty before block)
Treatment failure	5
Adjacent fracture rate	
History of vertebroplasty(%)	3/9
Dorsal root ganglion block only(%)	0/43

patients characteristics

Figure 1



contrast was injected and the dorsal root ganglion was outlined under iCT navigation

Figure 2



adjacent fracture after vertebroplasty