

통증 및 근골격재활

게시일시 및 장소 : 10 월 18 일(금) 08:30-12:20 Room G(3F)

질의응답 일시 및 장소 : 10 월 18 일(금) 10:00-10:45 Room G(3F)

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Six-month changes of traumatic compression fractures in patients visited for disability certificates

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Objective

Spine injuries after major trauma are common, but changes of vertebral compression fractures were mainly studied in patients with osteoporosis-related fractures. The purpose of this study was to identify the natural changes of traumatic vertebral compression fractures after 6 months in patients visited for disability certificates.

Methods

This retrospective study was performed using the medical records and radiographs of patients who visited the outpatient clinic of rehabilitation medicine department of one university hospital for disability certificates from 2016 to 2018. Inclusion criteria were older than 18 years, initial images were transferred to picture archiving and communication system, images for disability certificates were taken within 180-210 days from the onset. Exclusion criteria were vertebroplasty or kyphoplasty, spinal fusion, more than 2 levels of compression fractures, initial images were not available to be compared. Patients' data as age, sex, and information about compression fractures were collected. Initial and follow-up images taken around 180-210 days were measured and compared. Vertebral height, Cobb's angle, and local kyphotic angle were measured, and anterior-to-posterior ratio, middle-to-posterior ratio, and compression ratio were calculated. Thoracic and lumbar compression fractures were compared.

Results

During the study period, 82 patients with traumatic compression fractures visited the outpatient clinic of rehabilitation medicine department for disability certificates after 180-210 days from the onset. Among them, 52 patients were excluded according to relevant criteria. The remaining 30 patients included 11 men and 19 women. The mean age was 54.67 ± 13.39 years, and 194.00 ± 9.75 days had passed from the onset. Fourteen patients had thoracic compression fractures, and 16 patients had lumbar compression fractures. Of the spinal bone with the compression fracture, anterior height changed as -3.11 ± 2.26 mm (-14.56 ± 10.08 %), middle height as -2.61 ± 2.50 mm (-14.30 ± 13.98 %), and posterior height as -1.30 ± 1.16 mm (-4.68 ± 5.02 %). The anterior-to-

posterior ratio changed as -7.44 ± 8.05 %, middle-to-posterior ratio as -6.52 ± 9.26 %, and compression ratio as 7.63 ± 8.55 %. Cobb's angle changed as 5.42 ± 3.74 degrees and local kyphotic angle as 4.19 ± 3.71 degrees. All values were different between initial time and 6 months later ($P=0.000$). In comparison between thoracic and lumbar compression fractures, % difference of only anterior height of fractured spine was statistically different ($P=0.028$).

Conclusion

Even short period as 6 months from onset, the spine with traumatic vertebral compression fractures change significantly. Compression ratio would increase, and Cobb's angle and local kyphotic angle would decrease by around 4-5 degrees. Despite different absolute values of thoracic and lumbar spines, changes of thoracic and lumbar compression fractures were mainly not different.