

INPLASY PROTOCOL

To cite: Mao et al. Risk factors for secondary fractures to percutaneous vertebroplasty for osteoporotic vertebral compression fractures: a Meta-analysis. Inplasy protocol 202140128. doi: 10.37766/inplasy2021.4.0128

Received: 24 April 2021

Published: 25 April 2021

Corresponding author:
Mao Wei

790309861@qq.com

Author Affiliation:
Red Cross Hospital of
Guangzhou City

Support: 202002030049.

Review Stage at time of this submission: Preliminary searches.

Conflicts of interest:
None declared.

Risk factors for secondary fractures to percutaneous vertebroplasty for osteoporotic vertebral compression fractures: a Meta-analysis

Mao, W¹; Li, AG²; Dong, F³; Qing, SN⁴; He, PL⁵; Huang, GW⁶; Chen, H⁷.

Review question / Objective: The purpose of this study was to investigate the risk factors for refracture after vertebroplasty. The study was conducted retrospectively.

Condition being studied: Osteoporotic vertebral compression fractures. Data from eligible studies were extracted by two authors independently and discrepancies were resolved by discussion with a third reviewer.

Information sources: CNKI, Wanfang Database and PubMed.

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 25 April 2021 and was last updated on 25 April 2021 (registration number INPLASY202140128).

INTRODUCTION

Review question / Objective: The purpose of this study was to investigate the risk factors for refracture after vertebroplasty. The study was conducted retrospectively.

Condition being studied: Osteoporotic vertebral compression fractures. Data from eligible studies were extracted by two authors independently and discrepancies were resolved by discussion with a third reviewer.

METHODS

Intervention: Risk factors for secondary fractures to percutaneous vertebroplasty for osteoporotic vertebral compression fractures.

Comparator: Non-secondary fracture.

Study designs to be included: Retrospective observational studies.

Eligibility criteria: Secondary fractures to percutaneous vertebroplasty for osteoporotic vertebral compression fractures.

Information sources: CNKI, Wanfang Database and PubMed.

Main outcome(s): The Additional history of fracture, Age, BMD, Bone cement leakage, intravertebral fracture clefts, Cobb Angle, might be risk factors related to secondary fractures after percutaneous vertebroplasty for osteoporotic vertebral compression fractures. The height of vertebral anterior and BMI were not correlated.

Quality assessment / Risk of bias analysis: Cochrane.

Strategy of data synthesis: The data from the qualified studies were analyzed using Review Manager 5.3 software provided by the Cochrane Collaboration. The statistical data were analyzed by OR. We used the inconsistency index (I^2) statistic to evaluate the magnitude of heterogeneity (low heterogeneity, 0%–25%; moderate heterogeneity, 25%–50%; high heterogeneity, 50%–100%). If $I^2 > 50\%$, we would use a random-effects model; alternatively, we selected a fixed-effect model [15-17]. When the heterogeneity $I^2 > 50\%$, we would also perform a sensitivity analysis to identify possible reasons for heterogeneity. Sensitivity analysis was performed using the trim and fill method to detect the effects of publication bias on results.

Subgroup analysis: No.

Sensitivity analysis: Stata software conducts sensitivity analysis to reflect the sensitivity of articles by changing the effect size after deleting a certain article.

Country(ies) involved: China.

Keywords: vertebral compression fractures (VCFs), percutaneous vertebroplasty, risk factor, meta-analysis.

Contributions of each author:

Author 1 - Mao Wei.

Author 2 - LI Ai-guo.

Author 3 - Dong Fei.

Author 4 - Qin Sheng Nan.

Author 5 - He Pei Liang.

Author 6 - Huang Guowei.

Author 7 - Chen Huan.