Percutaneous Vertebroplasty Found to be the Best Management Approach for Osteoporotic Vertebral Compression Fractures

NEWS

Pain Management

According to a recent meta-analysis published in the journal Osteoporosis International, out of various management approaches, balloon kyphoplasty, percutaneous vertebroplasty, or non-surgical treatment, percutaneous vertebroplasty found to be the most effective procedure to improve functional status, quality of life, and pain among patients with osteoporotic vertebral compression fractures.

Non-surgical treatment (NST), balloon kyphoplasty (BK), and percutaneous vertebroplasty (PVP) are extensively employed to manage OVCFs, but the preferable approach is unknown.

Researchers conducted a Bayesian network meta-analysis and assessed the relative advantages and risks of NST, BK, and PVP in the context of OVCFs management. Data was collected by searching EMBASE, the Cochrane Library, and PubMed. The selected randomized controlled trials were screened on the basis of pre-planned eligibility criteria. The risk of bias for individual studies was also assessed.

Out of 1057 associated studies,15 were satisfactory and added. As compared to NST, PVP lessened Roland–Morris Disability Questionnaire (RMDQ), pain, and Oswestry Disability Index (ODI) significantly. The comparative effectiveness of PVP and BK was similar for ODI, RMDQ, and pain. The Physical Component Summary subscales of the Medical Outcomes Study 36-Item Short-Form General Health Survey (SF-36 PCS) and the European Quality of Life–5 Dimensions (EQ–5D) did not vary in significant ways. No significant differences in the risks of consequent adjacent vertebral fractures, vertebral fractures, and re-fractures at the operated level above all comparators were noticed. The outcomes of pairwise meta-analyses were substantially constant with those of network meta-analyses. The PVP showed the highest likelihood of being the most efficient for pain, EQ-5D, ODI, and RMDQ. BK showed the highest possibility of recovering SF-36 PCS and of reducing the risk of re-fractures and subsequent vertebral fractures at the operating level. NST was placed first in stopping adjacent vertebral fractures. The prospective regions of OVCFs management will depend on the results of larger and additional randomized trials in examining BK with PVP.

Source:	Osteoporosis International
Link:	https://link.springer.com/article/10.1007%2Fs00198-018-4804-2
Original title of article:	Which is the best treatment of osteoporotic vertebral compression fractures: balloon kyphoplasty, percutaneous vertebroplasty, or non-surgical treatment? A Bayesian network meta-analysis.
Authors:	R.-S. Zhu et al.

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Therapeutic, Balloon Kyphoplasty, Percutaneous Vertebroplasty, Or Non-Surgical Treatment, Osteoporosis, Bones, Bayesian Network Meta-Analysis, Efficacy, Roland–Morris Disability Questionnaire (RMDQ), Oswestry Disability Index (ODI), SF-36 PCS, European Quality of Life–5 Dimensions (EQ–5D)