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Cervical laminectomy with or without lateral mass instrumentation: A comparison of outcomes

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Background: Cervical decompressive laminectomy is a common posterior approach for addressing multilevel Cervical Spondylotic Myelopathy (CSM). However, there is a concern that cervical laminectomy can lead to kyphotic deformity with subsequent neurological decline. In this context, cervical laminectomy with fusion using lateral mass instrumentation has become increasingly utilized with the aim of reducing the risk of developing post-operative kyphotic deformity, which is thought to predispose to poorer neurological outcomes in the long-term.

Aim: To compare the evidence for stand-alone cervical laminectomy compared to laminectomy with posterior fusion in terms of clinical outcomes and the incidence of adverse events, particularly the development of post-operative cervical kyphosis.

Method: Initial Medline search using MeSH terms yielded 226 articles, 23 of which were selected. An additional PubMed search and the reference list of individual papers were utilized to identify the remaining papers of relevance.a

Result: Cervical laminectomy both with and without fusion offers effective decompression for symptomatic multi-level CSM. The incidence of post-laminectomy kyphosis is lower following posterior fusion. However, there appears to be no clinical-radiologic correlation given that patients who develop post-operative kyphosis often do not progress to clinical myelopathy. Furthermore, there are specific additional risks of posterior instrumentation that need to be considered.

Conclusion: In carefully selected patients with normal pre-operative cervical sagittal alignment, stand-alone cervical laminectomy may offer acceptably low rates of post-operative kyphosis. In patients with pre-operative loss of cervical lordosis and/or kyphosis, posterior fusion is recommended to reduce the risk of progression to post-operative kyphotic deformity, bearing in mind that radiological evidence of kyphosis may not necessarily correlate with poorer clinical outcomes. Furthermore, the specific risks associated with posterior fusion (instrumentation failure, pseudarthrosis, infection, C5 nerve root palsy, vertebral artery injury) need to be considered and weighed up against potential benefits.

Biography

Boaz Kim is committed to highest standard of excellence at St Vincent's Hospital Melbourne, in Australia. He has published numerous research papers and articles in reputed journals and has various other achievements in the related studies. He has extended his valuable service towards the scientific community with his extensive research work.

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