Comparison of ventral corpectomy and plate-screw-instrumented fusion with dorsal laminectomy and rod-screw-instrumented fusion for treatment of at least two vertebral-level spondylotic cervical myelopathy.

Abstract:

The objective of the article is to verify the hypothesis that the dorsal multilevel laminectomy and rod-screw-instrumented fusion (DLF) for multilevel spondylotic cervical myelopathy (MSCM) is less strenuous for patients, and less prone to perioperative complications, than ventral multilevel corpectomy and plate-screw-instrumented fusion (VCF), while clinical outcome is comparable. One hundred and three successive patients were treated for at least two vertebral-level MSCM, 42 of them by VCF and 61 by DLF. The two patients groups were retrospectively compared. VCF patients were slightly younger than DLF patients (62.5 +/- 10.61 years versus 66 +/- 12.4 years, P = 0.012). In VCF patients, a median of 2 (2-3) corpectomies and in DLF patients a median of 3 (2-5) laminectomies were performed. In VCF patients, surgery lasted longer than in DLF patients (229 +/- 60 min versus 183 +/- 46 min, P< or = 0.001). Between the VCF and the DLF patients groups, no significant difference was found in perioperative complications (e.g. hardware failure rates of 16.7% in VCF and of 6.6% in the DLF patients) and mortality rates. The postoperative outcome, as assessed by the postoperative change of the Nurick scores, the change of neck pain, the patients’ satisfaction,
and the change of the subaxial Cobb angle of the spine did not differ between the two patients groups. However, when comparing the postoperative Nurick scores directly, VCF patients fared somewhat better than DLF patients [median of 2 (0-5) versus 3 (1-5), P = 0.003]. The hypothesized advantages of DLF over VCF in the surgical treatment of at least two vertebral-level MSCM could not be confirmed in this retrospective study. A prospective randomized study is warranted to clarify this issue.

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