ORIGINAL ARTICLE

Posterior lumbar interbody fusion and posterolateral fusion: Analogous procedures in decreasing the index of disability in patients with spondylolisthesis

Babak Alijani, Mohamahreza Emamhadi, Hamid Behzadnia, Ali Aramnia, Shahrokh Yousefzadeh Chabok, Ehsan Kazemnejad Leili, Sara Ramtinfar, Shabnam Golmohamadi

Department of Neurosurgery, Guilan University of Medical Science, Rasht, Guilan, Iran

Objective: The purpose of this study was to evaluate the disability in patients with spondylolisthesis who assigned either to posterolateral fusion (PLF) or posterior lumbar interbody fusion (PLIF) and to compare it between two groups.

Methods: In a prospective observational study, 102 surgical candidates with low-grade degenerative and isthmic spondylolisthesis enrolled from 2012 to 2014, and randomly assigned into two groups: PLF and PLIF. Evaluation of disability has been done by a questionnaire using Oswestry Disability Index (ODI). The questionnaire was completed by all patients before the surgery, the day after surgery, after 6 months and after 1-year.

Results: There were no statistically significant differences in terms of age and sex distribution and pre-operation ODI between groups ($P > 0.05$). Comparison of the mean ODI scores of two groups over the whole study period showed no significant statistical difference ($P = 0.074$). ODIs also showed no significant differences between two groups the day after surgery, 6th months and 1-year after surgery ($P = 0.385$, $P = 0.093$, $P = 0.122$ and $P = 433$) respectively. Analyzing the course of ODI over the study period, showed a significant descending pattern for either of groups ($P < 0.0001$).

Conclusion: Both surgical fusion techniques (PLF and PLIF) were efficient to lessen the disability of patients with spondylolisthesis, and none of the fusion techniques were related to a better outcome in terms of disability.

Key words: Degenerative, fusion, isthmic, Oswestry Disability Index, spondylolisthesis