Curb the Pain of Spondylolisthesis; Comparing Posterolateral Fusion with Posterior Lumbar Interbody Fusion

Babak Alijani, Mohammadreza Emamhadi, Hamid Behzadnia, Maziar Azar, Ehsan Kazemnejad-Leili, Shahrokh Yousefzadeh-Chabok, Alireza Razzaghi, Ali Aramnia

Background & Aim: The purpose of this study was to evaluate and compare the pain of patients with spondylolisthesis who had undergone either of the surgery techniques: posterolateral fusion (PLF) or posterior lumbar interbody fusion (PLIF).

Methods & Materials/Patients: In a prospective observational study, 102 surgical candidates with low grade degenerative and isthmic spondylolisthesis were enrolled from 2012 to 2014. The observed patients were into two groups: PLF and PLIF. Assessing of pain has been done by a questionnaire using Visual Analogue Scale (VAS) scores. The questionnaire was completed by all patients before surgery, the day after surgery, after six months and after one year.

Results: There were no statistically significant differences in terms of age and sex distribution, type of spondylolisthesis and pre-operation pain between groups (p>0.05). Comparison of the mean VAS scores of two groups over the whole study period showed a significant statistical difference (p-value<0.05), although comparison of VAS at three points in time showed a mixed result. VAS scores showed no significant differences between two groups before surgery, the day after surgery and one year after surgery (p>0.05), but the difference of mean VAS scores between groups 6 months after surgery was statistically significant (p<0.05). Analyzing the course of VAS scores over the study period showed a descending pattern for either of the groups (p<0.0001).

Conclusion: Both surgical fusion techniques (PLF & PLIF) showed to be effective in treating low grade degenerative and isthmic spondylolisthesis, but PLIF was related to better outcome with respect to pain control.

Keywords: Spondylolisthesis; Fusion; Pain; Isthmic; Degenerative