

Introduction:

Most patients who decide for surgery for isthmic spondylolisthesis suffer from both low back pain and radiating leg pain. Knowledge about patient reported outcome for these symptoms and reported outcome for different surgical methods is essential when counselling patients regarding treatment. The aim of this study was to describe patient reported outcome 12 months after fusion surgery for isthmic spondylolisthesis. Patients and

Methods:

Data from 514 patients (254 women) who underwent fusion surgery for isthmic spondylolisthesis, February 2007-June 2018, registered in the Norwegian Registry for Spine Surgery (NORspine). Inclusion criteria: 16 years of age or older, no previous spine surgery, completed 12 months follow-up questionnaires. Mean age: 47.8 (SD 12.8) years. At baseline: low back pain (LBP) and leg pain were present in 78 %, LBP only in 12 % and leg pain only in 10 %. Oswestry disability score (ODI) mean: 37.1, LBP numeric rating scale (NSR) mean: 6.3, Leg pain mean NSR: 5.6. EQ-5D mean: 0.40. Level of spondylolisthesis: L5/S1 415 (80.7 %), L4/L5 83 (16.1 %), L3/L4 16 (3.1 %)

Results:

Surgical method: Posterolateral fusion (PLF): 211 (without instrumentation 19). Transforaminal lumbar interbody fusion (TLIF): 209, anterior lumbar interbody fusion (ALIF): 71, posterior lumbar interbody fusion (PLIF): 19, unspecified anterior/posterior: 4. Mean change from baseline to 12 months FU, all patients: ODI -17.0 (range: -48-70). NRS LBP -2.8 (range: -5-10). NRS leg pain -3.1 (range: -8-10). EQ-5D 0.28 (range: -0.87-1.1). At 12 months FU: NRS LBP \geq 4: 44 %. NRS Leg pain \geq 4: 31 %. ODI \geq 30: 25 %. We found no significant differences in any patient-reported outcome between instrumented PLF, TLIF or ALIF (One-way ANOVA, not adjusted for patients' characteristics at base line). Global Perceived effect (GPE) seven point scale: 1 "completely recovered": 93(18%) (ODI mean change 29), "much improved": 244(48%) (ODI mean change 23), "slightly improved": 112(22%) (ODI mean change 7), "unchanged": 22(4%) (ODI mean change -3), "slightly worse": 19(4%) (ODI mean change 2), "much worse": 16(3%) (ODI mean change -2), "worse than ever": 8(2%) (ODI mean change -23). Perioperative complications and adverse events registered on the surgeons form: dural tear: 0.2 %, nerve injury 0.1 %, misplaced implant 0.6 %, profuse bleeding 0.1 %, anaphylaxis: 0.2 %. Patient-reported complications and adverse events in the first 3 months: Urinary tract infection: 3.9 %, surgical site infection: 3.1 %, deep venous thrombosis: 0.2 %, pulmonary embolus: 0.2 %, pneumonia: 0.4 %.

Conclusion:

Patient-reported outcome 12 months after surgery for isthmic spondylolisthesis seems satisfactory. Of 514 patients 66 % reported "complete recovery" or "much improved", 22 % reported "slightly improved". However, low back pain and leg pain are still a concern for many patients. Few complications were reported.