Clinical, Morphological and Functional Success Predictors Following Lumbar Spinal Surgery in Patients With Chronic Low Back Pain and Leg Pain

Lubetzky	Anat V.	*PT, PhD*
Soroka	Avihai	*MScPT*
Harel	Daphna	*PhD*
Errico	Thomas	*MD*
Bendo	John	*MD*
Leitner	Joseph	*MD*
Shabat	Shay	*MD*
Ashkenazi	Eli	*MD*
Floman	Yizhar	*MD*
Moffat	Marilyn	*PT, PhD, FAPTA*
Masharawi	Youssef	*PT, PhD*

Abstract

Outline of the problem: Globally, there is an increase in the number of older adults that go through lumbar spine surgery. This number is expected to increase in the upcoming years. Variability in surgical outcomes and complications rate, indicate that candidates for surgery should be assessed with good diagnostic and predictive tests so that any surgical decision in their cases will be informed by a realistic prediction of treatment outcome. The international classification of functioning, disability and health (ICF) allows for a comprehensive description of the patient as a whole and can be used to classify patients according to their anatomy, pathology, impairments and capacity. The primary goal of our research was to determine if ICF framework in conjunction with clinical, morphological and parameters can be predictors of: self-reported successful outcomes in patients suffering from chronic low back pain (CLBP) and leg symptoms following either a decompression or fusion lumbar surgery or a non-surgical 'wait and see' approach.

Methods

Patients have been recruited from Meir Medical Center, from Assuta medical center, Israel and from NYU Medical Center, USA. Patients underwent a comprehensive clinical assessment including functional tests and balance tests (the single-leg-stance test, four-step-square-test and 8-foot-up-and-go test) questionnaires reporting pain, disability, other personal factors, and imaging analysis. Response to treatment has been assessed short-term (3 months) and long-term (6 and 12 months) and success predictors have been identified.

Our preliminary results have indicated that risk of falling is higher than surgeons suspect and support the importance of screening for balance and fall risk in adults undergoing lumbar spine surgery.

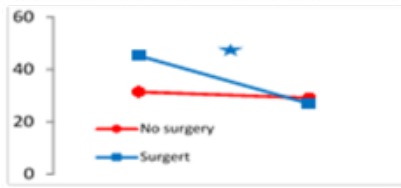Figure 10. Oswestry Disability Index (ODI) at the BL vs. T₁ in the "surgery" group.

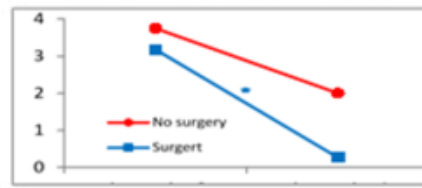Figure 11. Leg pain with Rt. SLR at the BL vs. T₁ in the "surgery" group.

Figure 12. Back pain with Lt. SLR at the BL vs. T₁ in the "surgery" group.
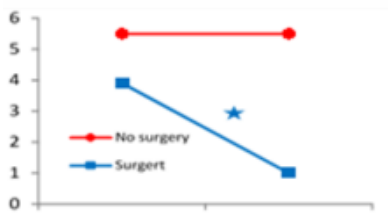
Figure 13. Leg pain with Lt. SLR at the BL vs. T₁ in the "surgery" group.