

Catastrophic Complications Following Minimally Invasive Lateral Lumbar Interbody Fusion

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Introduction

The minimally invasive lateral retroperitoneal transpsoas approach for lumbar interbody fusion continues to gain in popularity. Complications of this increasingly utilized procedure need to be examined and reported. The objective of this study is to review the incidence of catastrophic complications encountered during minimally invasive lateral lumbar interbody fusion (MIS LLIF) in a single academic institution

Methods

425 patients underwent single and multi-level MIS LLIF (XLIF, Extreme Lateral Interbody Fusion, Nuvasive®, San Diego, CA) from 2008 to 2011. Patients were retrospectively evaluated for catastrophic complications unique to this approach. This included bowel perforation and major blood vessel injury (aorta, inferior vena cava, and common iliac vessels). Lumbar plexus injuries producing transient anterolateral thigh numbness, though common with this approach, were not included as catastrophic complications. Intraoperative electromyographic monitoring was performed in all cases.

Learning Objectives

By the end of session, participants should be able to:

1. Describe potential catastrophic complications of the lateral lumbar inter body fusion
2. Compare their rates of catastrophic complications with ours

Results

Records of 425 consecutively enrolled patients (mean age 53.4, range 29-75) undergoing the MIS LLIF procedure were examined. Mean follow up was 14 months, ranging from 1-36 months. In this series of 425 patients, no catastrophic complications occurred. Although unlikely for a delayed bowel injury to manifest in one of the more recent surgeries, it is theoretically possible.

Conclusions

The minimally invasive lateral lumbar interbody fusion technique is technically demanding and has the potential for significant morbidity. Complications of this approach need to be reported and efforts to better understand and prevent these complications need to continue. Based on our experience, the MIS LLIF is a safe and reproducible alternative to other interbody fusion procedures with a low risk of catastrophic complications.