A retrospective study of lumbar spine fusion surgery with the Wiltse approach and the traditional approach

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Abstract

Background□ This study aimed to compare the clinical results between the Wiltse approach and traditional approach in lumbar spine fusion. **Methods:** In this retrospective controlled study, from May 2016 to May 2017, 70 cases with lumbar spine fusion surgery for lumbar disc herniation or lumbar spondylolisthesis within II degree were assigned to Wiltse approach (35 cases, 18 males and 17 females; mean age 52 years) and traditional approach groups (35 cases, 19 males, 16 females; 51 years). There were totally 38 cases of lumbar disc herniation and 32 cases of II- degree spondylolisthesis in two groups. The operation time, the amount of blood loss and post-operation drainage, the level of creatine phosphokinase (CK) and the reduction of cross sectional area (CSA) in magnetic resonance imaging (MRI) were recorded. **Results:** After the operation for the Wiltse approach group, there was less operation time, blood loss and post-operative drainage ($p \leq 0.05$); the peripheral blood CK levels were changed a lot in 1 day and 3 days after the operation. In the Wiltse group, the reduction of CSA was significantly lower than traditional approach group in MRI. **Conclusion:** For lumbar spinal fusion surgery, the Wiltse approach does have shorter operation time and smaller vertebral side muscle injury compared with the traditional approach. However, in determining the operation program, the performer should fully recognize that the Wiltse clearance may have different influence on the operation at different anatomical level.

Full Text

Due to technical limitations, full-text HTML conversion of this manuscript could not be completed. However, the manuscript can be downloaded and accessed as a PDF.

Figures

Figure 1

The cross-sectional area of multifidus muscle of two different surgical approach patients on MRI before and after surgery were observed. Note: A and C show the cross-sectional area of multifidus muscle on MRI for L3/L4 level of a 38-year-old male LDH patient who underwent lumbar spine fusion operation with the conventional approach; B and D show the cross-sectional area of multifidus muscle on MRI for L3/L4 level of a 56-year-old female LDH patient who underwent lumbar spine fusion operation with the Wiltse approach.