

The efficacy of lumbar interbody fusion achieved due minimally invasive intertransverse process approach

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Purpose: The current study was designed to describe the technique and to evaluate the efficacy of lumbar interbody fusion achieved due minimally invasive intertransverse process approach. This surgical via avoids the need for either intraabdominal dissection or violation of the spinal canal in accessing the disc space and it is indicated in selected lumbar pathologies as symptomatic degenerative disc disease or low grade of spinal instability that may require interbody fusion without spinal canal decompression.

Methods: Twenty-three patients with single-level spinal instability or degenerative disc disease were identified and treated by this method. Visual analogue Scale (VAS) and Oswestry disability index (ODI) were used to assess back pain and functional outcome. Fusion was evaluated by CT scan achieved 6 months after surgery.

Results: The average follow-up period was 13 months. Clinical outcome was satisfactory in all patients; mean improvement of 5.7 points in VAS scores and 23.7% in the ODI was observed. Evidence of fusion was observed in all patients.

Conclusions: In our experience far lateral lumbar interbody fusion technique achieved due minimally invasive intertransverse process approach has shown the potential to reduce the rate of complications, the amount of intra-operative blood loss, the intensity of postoperative pain, and the duration of hospital stays. This kind of extraforaminal approach, when used in selected lumbar pathologies that do not require spinal canal decompression, allows to achieve a satisfactory results and it is a valid alternative to other fusion techniques.

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Use of laboratory test as predictors of early postoperative infection after operation of adolescent idiopathic scoliosis

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This was a prospective study designed to characterize the normal kinetics of laboratory test including C - reactive protein (CRP) level and erythrocyte sedimentation rate (ESR) after operation of AIS and to define predictors for early postoperative infection.

31 consecutive AIS patients without early post-operational infectious complication, underwent correction surgery from September 1st 2009 to July 31st 2011, were included in this study. C-reactive protein (CRP), erythrocyte sedimentation rate (ESR), white blood cell (WBC) account, bacterium culture and microscopy of drainage fluid were collected before and after the surgery. For CRP, a peak value mainly occurred at the third postoperative day (POD3) with mean value of 98.46 ± 46.32 mg/L; after the peak CRP showed an exponential decrease. For ESR, the peak value occurred mainly at POD 5 with the mean value of 58.10 ± 20.75 mm/h, and experienced a slower decline after that. WBC account got to the peak value of $12.44 \times 10^9/L$ at POD 1 and back to normal after that. Nucleated cell account of drainage fluid at POD 3 showed a mean value of $4.18 \pm 1.28 \times 10^9/L$, with apocytes accounted for 94.75%. Bacterium culture was negative for all the patients without postoperative infection. The normal kinetics of laboratory test gained from this study facilitated comparison between actual and expected value of a specific patient for judging whether an early postoperative infection existed. According to this study, an exorbitant value, fail to decrease and a second rise were proved to be effective predictors of early postoperative infection.

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