

Adult Spinal Deformity in the Elderly. Preliminary Clinical and Radiological Results in 22 Patients Treated by a Two Times Minimally Invasive Spine Surgery

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Introduction

The adult spinal deformity (ASD) seems, in the last years, in a progressive increment. It should be in relation to the aging of the population. This trend leads to a progression of the disability and the reduction of the quality of life of these patients. The surgical correction of the ASD obtained by a traditional “open” surgery can often be incompatible with the co-morbidities of these patients. The minimally invasive surgery for correction of the deformities (MISDEF) can offer technical nuances, such as reduce of intraoperative blood loss and quickly recovery, which can lead the opportunities for these patients to approach the surgery. We present the preliminary results of our observational study on the radiological correction and clinical results of old patients affected by ASD treated by MISDEF.

Methods

Observational study with 20 months of follow-up. Twelve patients affected by low-back pain, sciatalgia and/ cruralgia, neurological claudication were enrolled in this study. All the patients underwent to a MISDEF based on a percutaneous transpedicular stabilization plus a lateral or transforaminal interbody fusion. We collected all the radiological datas, such as sagittal vertical axis (SVA), sacral slope (SS), pelvic tilt (PT), pelvic incidence (PI), lumbar lordosis (LL) and coronal cob (CC) and the clinical status, Oswestry disability index (ODI) and SF-36.

Results

The mean age was 70 years (65 – 78 years), 3 men and 9 women. 7 patients presented a lumbar left side convex scoliosis, while 5 patients presented a right side one. All the patients underwent to a 2 times surgery: the first time was a lateral access, the second time was the posterior access. The side for the lateral interbody fusion was the concave side of the scoliosis. L4L5 segment was always been approached for a transforaminal interbody fusion. The proximal instrumental vertebra was T10. The mean intraoperative blood loss was 500 cc. All the patients were mobilized within 2 days. The ODI and SF36 evidenced a statistically improvement ($p < 0,05$). No evidence of infections, neurological deficit, failure of the implant and/or loosening of correction were documented in the follow up.

Conclusions

The MISDEF offers, even for elderly patients with co-morbidities, a valid and secure surgical solution for the correction of the ASD. From the results of our study appeared a good compliance of these techniques for all the patients, with a good result even at 20 months of follow-up. We considered that the opportunity to separate the surgical correction of the deformity in 2 times surgery seems to be a better and secure solution especially for elderly patients.