Operative vs. Non-Operative Outcomes: A Follow-up of Adult Scoliosis Patients Age over 65

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Introduction

Few data has been reported on the efficacy of operative and non-operative treatment of adult scoliosis patients older than 65 years using more than one self-assessment questionnaire. [1] [2] The purpose of this study was to evaluate the outcomes of adult scoliosis patients older than 65 years who did or did not undergo operative treatment using four validated self-assessment outcome questionnaires.

Methods

We retrospectively identified a total of 76 adult scoliosis patients (either degenerative or idiopathic progressive types) older than 65 years from a single spine center. Twenty of these were treated surgically, while fifty-seven were managed non-operatively. For each of these patients standard radiographic measurements (Cobb angle, apical vertebral translation (AVT), coronal balance, and C7 plumb line) were recorded both prior to and following treatment. Each patient received four separate self-reported outcome questionnaires (SRS-22, SF-12, EQ5D, and ODI) that were completed at an average of 6 months following their initial visit. A total of 50 completed responses were received (20 operative, 30 non-operative). Student’s t-test was used to determine statistical significance.

Results

There were no significant differences in the radiographic measurements between the two cohorts (p=0.86). For the operative cohort there was a significant improvement in radiographic measurements post-operatively and significantly better self-assessment scores for EQ5D index, SRS-22, and SF-12 PCS (Fig 1-6). There was no significant difference between the groups for the SF-12 MCS. Compared to the non-operative cohort, the operative cohort reported significantly less pain, better self-image, and greater overall satisfaction with their treatment.

Discussion

This study compared the outcomes of elderly scoliosis patients greater than 65 years who did and did not undergo operative treatment using patient-derived outcome measures. The operative cohort reported better outcomes as measured by the four self-assessment questionnaires. When compared with the non-operative cohort following treatment, the operative cohort reported significantly less severe pain, better self-image, and greater overall satisfaction with their treatment. Pre-operative radiographic deformity was not determined to be a significant factor for predicting whether an operative or non-operative treatment course was chosen.

Fig1. A) A female, 88, left preoperative AP shows T11-L3 Cobb 35° and right lateral film shows sagittal alignment

Fig2. B) Posterior instrumented spinal fusion from T10 to sacrum, left shows postoperative 24 months with Cobb 10°(T11-L3) and the right shows C7 is within 3 cm of the anterior superior corner of S1.

Fig 3. There was significant difference between the groups In SRS-22 instrument score. P=0.004

Fig 4. The Non-operative group had higher ODI scores, but there was no significant difference between two groups; although the operative group less than 20.0

Fig 5. The operative group also had significant difference with EQ5D questionnaire instrument, p=0.04

Fig 6. There was no significant difference between the groups for the SF-12 MCS except for the significant difference with SF-12 PCS between the two groups

References