Background

Up to 68% of the elderly population has spinal deformity which is a growing concern given that average lifespan is increasing. Adult spinal deformity surgeries are generally very taxing and come with significant morbidity. It is of interest to see how adult spinal surgery outcomes compare between the age groups of 65-74.9 and 75+ years of age.

Purpose

Compare outcomes and complications between 65-74.9 and 75+ year olds undergoing surgery for spinal deformity.

Study Design

Retrospective study of a prospectively collected database at one center.

Patient Sample

All patients 65 years and older that underwent deformity surgery of the thoracolumbar spine with a minimum of 24 month follow-up (range 25-186mo).

Outcome Measures

Visual Analog Scale (VAS) and Oswestry Disability Index (ODI), radiographic outcomes, postoperative complications and need for additional surgery.

Methods

Patients were divided based on age into 65-74.9 or 75+ groups. Radiographic parameters were measured preop, postop, and at 2 years. VAS and ODI were collected preop, at 1 year, and 2 years. Comorbidities included were based on the Charlson Comorbidity Index (CCI) and compared to the incidence of complications and need for further surgery.

Results

176 patients were included in this study. 130 were aged 65-74.9 and 46 were older than 75. Average follow-up was 69.1 months (25-186mo). No demographic differences other than age and BMI (65-74.9: BMI 27.3, 75+: BMI 23.0, p=0.003) were of significance. Both age groups had improvements in their radiographic parameters postop which was maintained at 2 years except that there was an overall increase in thoracic kyphosis. In the 65-74.9 group, 47.9% with 0-2 comorbidities had a complication whereas 54.5% with ?3 comorbidities had a complication. 37.8% in the 0-2 group required additional surgery compared to 45.5% in the ?3 comorbidities group. In the 75+ group 61.9% with 0-2 comorbidities had a complication whereas 50.0% with ?3 comorbidities had a complication. 38.1% in the 0-2 group required additional surgery compared to 50.0% in the ?3 comorbidities group. Comparing the different age groups with similar comorbidity burden in regards to complications and need for additional surgery yielded no statistically significant difference between groups. The 65-74.9 group had a 2.6 decrease in their VAS at 2 years whereas the 75+ group had a 2.5 decrease. A 15.4 improvement in the preop ODI was seen at 2 years in the 65 to 74.9 group whereas the 75+ group also had a 15.4 improvement. The preop and 2 year VAS and ODI scores were not found to have a statistically significant difference between groups.

Conclusions

Analysis of our study population indicates that there is not a statistically significant difference between the outcomes and complications of deformity surgery in patients 75 years and older when compared to a younger elderly population. It also does not appear that a ?3 comorbidity burden has a significant impact on the complications or need for additional surgery in our elderly spinal deformity surgery population.