

Operatively Treated Young Adult Spinal Deformity (ASD) Patients (50 Years of Age) Have Larger Scoliosis and Worse Quality of Life than Nonoperative Patients Despite Normal Sagittal Alignment

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Introduction

- Adult Spinal Deformity (ASD) is a multifactorial heterogenous disease
- Factors influencing surgical intervention include deformity and pain
- Prospective data on motivating factors is scarce, especially age-related information

Objective

Assess age related differences in non operatively and operatively treated ASD patients utilizing a prospectively collected multi-center database.

Methods

Prospective analysis of ISSG multicenter ASD database

Inclusion criteria included:

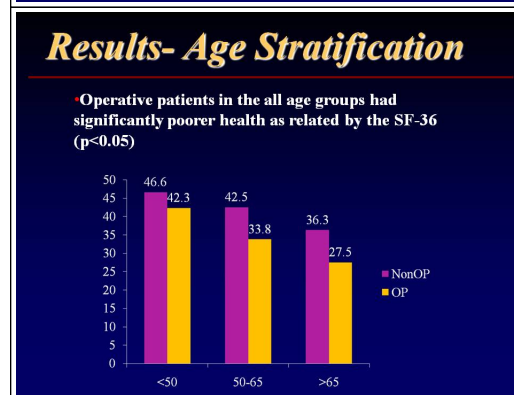
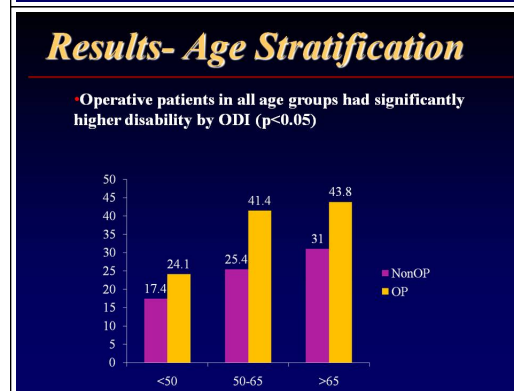
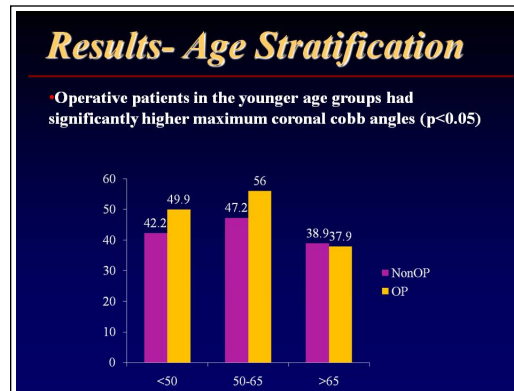
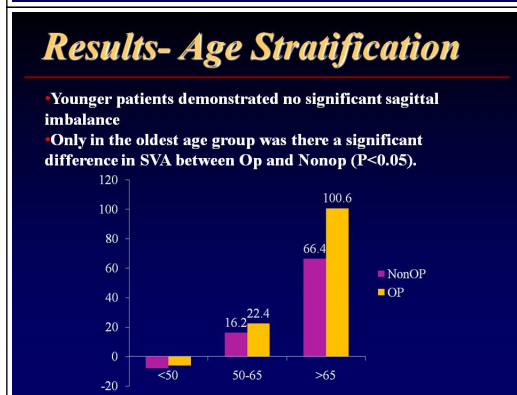
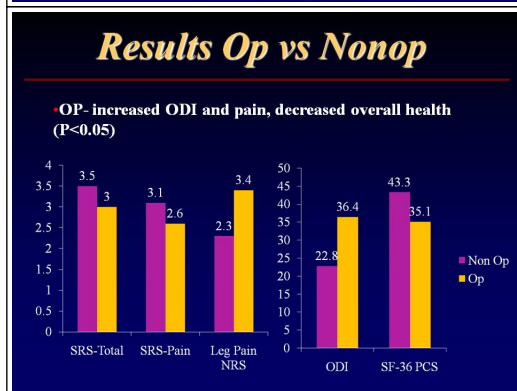
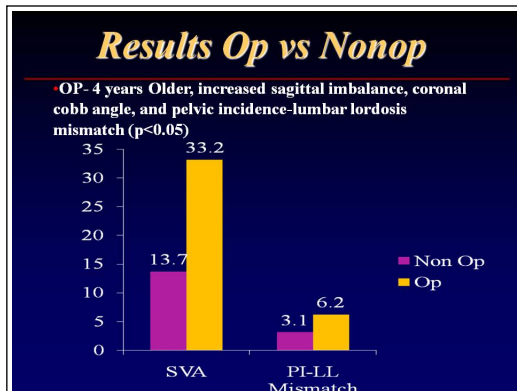
- age >18 years
- no prior surgery
- deformity
 - scoliosis greater than 20 degrees
 - sagittal vertical axis (SVA) greater than 5cm
 - pelvic tilt greater than 25 degrees
 - thoracic scoliosis greater than 60 degrees

Data collection included:

Demographics, Radiographic data (eg. Cobb angle, SVA, spinopelvic parameters), Health Related Quality of Life (HRQOL), SRS-22, Oswestry Disability Index (ODI), SF-36, Numeric pain scale (NRS)

Patients were divided by operative and nonoperative management then subdivided by age category:

- Less than 50
- Between 50-65
- Greater than 65



Conclusions

- Overall, operative patients demonstrated worse sagittal alignment and higher Pelvic Incidence-Lumbar Lordosis mismatch
- In all age groups operative patients had worse quality of life, disability, and pain
- In older patients, greater sagittal plane deformity was present in operative patients
- ASD in all age groups is associated with decreased HRQOL
- In younger patients, worse HRQOL was reported for operative patients despite physiological spino-pelvic and sagittal plane parameters
- Larger maximal coronal curves were present in operative younger patients when compared with nonoperative patients
 - Cosmesis may play a role in younger adults

Limitations

- Treatment modality determined by patient and treating surgeon
- Characterizations not necessarily applicable to patients with prior surgery
- However, database and study design were prospective in origin

Learning Objectives

By the conclusion of this presentation, participants should: (1) appreciate that in younger adults with scoliosis the scoliotic deformity, rather than sagittal spinal malalignment, predicts surgical treatment, (2) appreciate that compared with young adults with scoliosis who elected for nonoperative treatment, those undergoing operative treatment had worse pain and disability, despite similar mental health profiles and anatomic sagittal alignment.