



Prospective, Multi-Center Assessment of Nonoperative Treatment Outcomes and Conversion to Operative Treatment for Adult Spinal Deformity: Minimum 2-Year Follow-Up

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Introduction


First-line treatment for ASD is typically nonop. Our objective was to assess outcomes of nonop care and compare those who converted to op vs those who remained nonop.



Methods

This is a multicenter, prospective analysis of consecutive ASD patients electing for nonop care. Inclusion criteria: age>18 yr, ASD and min 2-yr follow-up or conversion to op care. Efforts were made to maximize standard multimodality nonop care.

Methods

- Multicenter, prospective consecutive NONOP
- ASD
- Multimodality nonoperative care
- Inclusion criteria
 - >18 y/o
 - MIN 2yr follow up or conversion to OP CARE



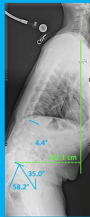




Results

Of 225 patients (mean age=53 yrs), 42(19%) converted to op at a mean of 12.5 mos. At baseline, those who converted to op had greater BMI (27.3vs25.2, p=0.041), greater pelvic tilt (23vs19deg, p=0.043), greater pelvic incidence to lumbar lordosis mismatch (11vs4deg, p=0.038), trend toward greater C7 SVA (70vs52 mm, p=0.075), greater ODI (37vs22, p<0.001), worse SF36PCS (35vs44, p<0.001) and MCS (45vs51, p=0.012), worse SRS-22 (3.0vs3.6, p<0.001), back (6.4vs4.4, p>0.001) and leg (4.4vs2.3, p<0.001) pain, but did not differ based on age (p=0.2), gender (p=0.3) or coronal Cobb angle (p=0.8). On multivariate analysis the only factors in the best-fit model were ODI (p=0.005) and SRS Appearance (p=0.032). Patients who converted to op had modest worsening of ODI (40vs37, p=0.085), SF36 PCS (33vs36; p=0.009) and back pain (7.1vs6.3, p=0.024) prior to surgery, but other outcomes and radiographic measures did not significantly change. Min 2-yr post-op follow-up was available for 27 who converted to op, and all HRQL measures improved significantly (p<0.007). Those remaining nonop had no clinically significant changes in HRQL during the observation period.

Results


- 225 patients met criteria
- 42 or 19% transitioned to operative intervention with a mean interval of 12.5 months
- Conversion patients
 - Worsened SF 36 PCS 33 vs 36 (P=0.009)
 - Worsened back pain 7.1 vs 6.3 (P=0.024)







Results


- At baseline conversion patients
 - Worse spinopelvic parameters
 - PI-LL Mismatch: 11° vs 4° p=0.038
 - PT: 23° vs. 19° p=0.043
 - Worse HRQL
 - ODI: 37 vs 22 p<0.001
 - SF36 PCS 35 vs 44 p<0.001
 - SRS-22 3.0 vs 3.6 p<0.001
 - VAS Back 6.4 vs 4.4 p<0.001
 - VAS LEG 4.4 vs 2.3 p<0.001







Conclusions

- Nonoperatively treated patients did not demonstrate improvement
- Patients transitioning to operative care had worsening HRQL
- Patients transitioning had worse baseline:
 - Spinopelvic parameters
 - HRQL measures





Conclusions

Of 225 ASD patients treated nonop, the 19% who converted to op had greater baseline sagittal spinopelvic deformity and poorer outcomes scores. Surprisingly, appearance was a driver of operative conversion. These data suggest that nonop care at best maintains levels of pain and disability and patients with greater pain and disability tend to convert to op care.

Learning Objectives

By the conclusion of this session, participants should be able to:

- 1) Identify the nonop conversion to surgery rate in a large multicenter ASD patient population and
- 2) describe the factors that influence conversion to operative treatment

References

Selected References

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