Quality of Life and Burden of Care In Patients with Early Onset Scoliosis Undergoing Casting

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## Disclosures

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Current Treatment of EOS

- Controversial and evolving
- Various “growth friendly” surgical interventions
- Serial body casting is a common non-surgical alternative method
Introduction

When selecting treatments
• Important to understand and consider patient’s HRQoL and burden of care
Purpose

Examine the health related quality of life and burden of care of patients with EOS undergoing casting treatment
Methods

• Design
  – Prospective study examining patients’ HRQoL and parental and financial burdens pre- and post-casting

• Participants
  – EOS patients undergoing casting treatment
  – No prior scoliosis treatment

• Procedure
  – The EOSQ-24 and other clinical data collected through 2 multi-center databases
Number of patients rated for EOSQ-24

<table>
<thead>
<tr>
<th>Total</th>
<th>Pre-Casting</th>
<th>Post-Casting</th>
<th>Pre- and Post-Casting</th>
<th>Idiopathic</th>
<th>Non-Idiopathic</th>
</tr>
</thead>
<tbody>
<tr>
<td>72</td>
<td>32</td>
<td>55</td>
<td>15</td>
<td>47</td>
<td>25</td>
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</tbody>
</table>

Post-casting = anytime during the casting

Age at initial casting: 1.8 ± 1.4 (0-6.3)

- No significant correlation between EOSQ-24 scores and age at initial treatment

Number of days prior and after casting:

- Pre-Casting: 17.9 ± 30.2 days prior
- Post-Casting: 292.9 ± 290.5 days after
No significant difference in HRQoL compared to norms
Significantly lower HRQoL compared to norms
Significantly worse parental burden in post-casting
Non-Idiopathic: Pre-Casting

Some HRQoL significantly lower compared to norms
HRQoL significantly lower compared to norms

**Non-Idiopathic: Post-Casting**

**HRQoL significantly lower compared to norms**

- General Health
- Pain/Discomfort
- Pulmonary Function
- Transfer
- Physical Function
- Daily Living
- Fatigue/Energy Level
- Emotion

**Chart**

- EOS
- Norm
Non-Idiopathic: Financial and Parental Burden

Significantly worse at both time-points

Pre-Casting

Post-Casting

Parental Burden | Financial Burden
--- | ---
Parental Burden | Financial Burden

Significantly worse at both time-points
Discussion

- EOS patients undergoing casting experience significantly lower HRQoL and higher parental burden compared to norms.

- This is somewhat contrary to our hypothesis of casting having a benign impact.
Discussion

• Before the casting treatment, Idiopathic patients had HRQoL similar to that of norms
  = Surgical patients (ICEOS 2012)

• Age at initial treatment was not correlated with patient’s HRQoL
  ≠ Surgical patients (ICEOS 2012)
  Younger age at initial sx = worse HRQoL at post-op assessment
• It is not possible to discern from this study whether low HRQoL and high Parental Burden is related to:
  • Repeated OR/anesthesia procedures
  or
  • Having the body in a cast
Conclusions

• The EOSQ-24 is able to evaluate the HRQoL, parental, and financial burden of patients undergoing casting treatment

• While casting treatment is considered to have low impact on patients and their families, it still requires careful attention.
Next Steps

- Directly compare HRQoL and burdens before and after casting
  - Currently only N=15, need a larger sample size

- Compare patient’s HRQoL and parental and financial burdens between casting and surgical patients
Thank You

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