

Comparison of HRQoL in Patients with Early Onset Scoliosis Treated with Serial Casting vs Traditional Growing Rods

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Disclosures

- Li: see program
- Graham: none
- Robbins: none
- Yaszay: see program
- Akbarnia: see program
- Andras: see program
- Oetgen: see program

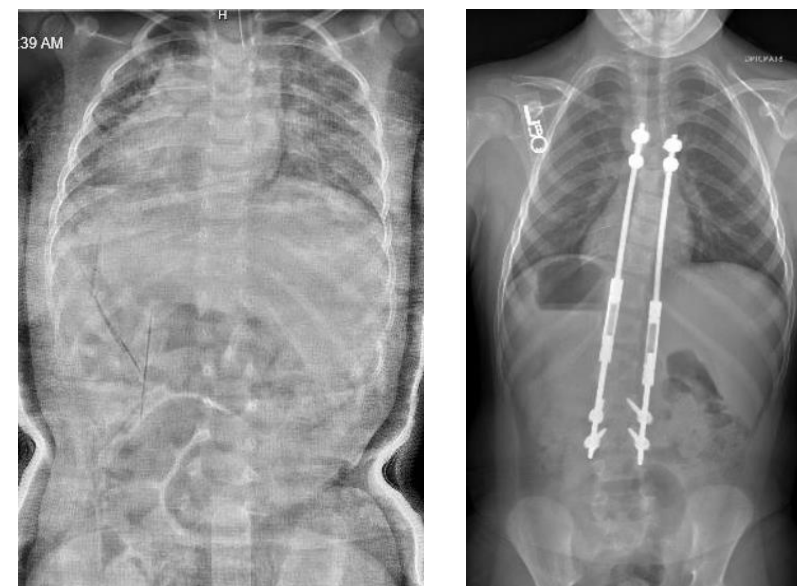


Background

Comparison of Growing Rod Instrumentation Versus Serial Cast Treatment for Early-Onset Scoliosis

Charles E. Johnston, MD^{a,*}, Anna M. McClung, RN^a, George H. Thompson, MD^b,
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- Similar radiographic outcomes
- Higher complication rate with traditional growing rods (TGR)
- Health-related quality of life (HRQoL) not assessed



Spine Deformity, 2013



Background

- EOSQ-24 measures HRQoL in pts with early onset scoliosis (EOS)
- Completed by caregiver



Purpose

- Compare EOSQ-24 scores in children with EOS treated with casting vs TGR
- Hypothesis: EOS pts treated with casting have better HRQoL than pts treated with TGR



Methods

- Queried prospective multicenter EOS database to identify casting (CAST) and TGR pts who had completed 1 pre- and ≥ 1 post-treatment EOSQ-24
- Most recent questionnaire used if >1 post-treatment EOSQ-24
- Excluded if <6 months between pre- and post-treatment EOSQ-24
- Demographic, procedural, EOSQ-24 data
- Patients matched by age using propensity score matching



Results

- 28 age-matched CAST and TGR cases (56 patients)
- Age at start of treatment 4.7 vs 5.2 years

	CAST	TGR	P-value
Number of procedures	4.0	5.6	0.008
Duration of follow-up (months)	11.5	45.0	<0.0001
Time between pre- and post-treatment EOSQ-24 (months)	19.6	44.9	<0.0001



Results

- Similar pre-treatment scores except for Financial Impact

EOSQ-24 domain	Pre-treatment EOSQ-24 scores		
	Cast	TGR	P-value
General Health	71	69	0.887
Pain	78	75	0.523
Pulmonary Function	89	81	0.091
Transfer	81	78	0.848
Physical Function	76	65	0.343
Daily Living	60	44	0.081
Fatigue	80	67	0.057
Emotion	75	82	0.419
Parental Impact	67	62	0.421
Financial Impact	77	59	0.049
Child Satisfaction	68	64	0.758
Parent Satisfaction	67	63	0.871



Results

- Post-treatment scores higher in 6/12 domains for CAST

EOSQ-24 domain	Post-treatment EOSQ-24 scores		
	Cast	TGR	P-value
General Health	72	67	0.376
Pain	77	62	0.018
Pulmonary Function	84	85	0.965
Transfer	80	63	0.048
Physical Function	73	65	0.392
Daily Living	61	35	0.001
Fatigue	79	55	0.001
Emotion	81	68	0.035
Parental Impact	72	60	0.055
Financial Impact	73	72	0.730
Child Satisfaction	74	59	0.022
Parent Satisfaction	79	65	0.056



Results

- CAST had improved Parental Impact and Parent Satisfaction after start of treatment

EOSQ-24 domain	Cast		
	Pre	Post	P-value
General Health	71	72	0.757
Pain	78	77	0.840
Pulmonary Function	89	84	0.515
Transfer	81	80	0.858
Physical Function	76	73	0.494
Daily Living	60	61	0.946
Fatigue	80	79	0.658
Emotion	75	81	0.215
Parental Impact	67	72	0.047
Financial Impact	77	73	0.484
Child Satisfaction	68	74	0.134
Parent Satisfaction	67	79	0.011



Results

- TGR had worse Pain, Transfer, Fatigue, and Emotion after start of treatment

EOSQ-24 domain	TGR		
	Pre	Post	P-value
General Health	69	67	0.556
Pain	75	62	0.011
Pulmonary Function	81	85	0.213
Transfer	78	63	0.032
Physical Function	65	65	0.989
Daily Living	44	35	0.137
Fatigue	67	55	0.034
Emotion	82	68	0.006
Parental Impact	62	60	0.657
Financial Impact	59	72	0.112
Child Satisfaction	64	59	0.470
Parent Satisfaction	63	65	0.856



Results

- Only difference in change in scores from pre- to post-treatment between CAST and TGR was in Emotion ($P=0.007$) and Financial Impact ($P=0.038$)



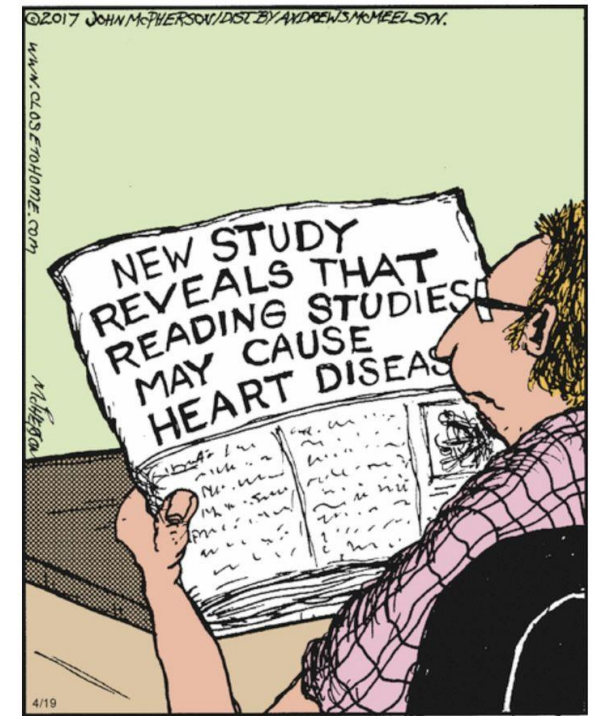
Discussion

- Serial casting may lead to improved HRQoL compared to TGR in EOS
- Caregiver burden and satisfaction improve with casting
- Pain, Transfer, Fatigue, and Emotion may worsen after start of TGR treatment



Limitations

- CAST and TGR patients age-matched but groups still dissimilar
- Need longer term follow-up, esp for casting group
- Did not collect radiographic or complication data



Conclusion

- Serial casting may lead to improved HRQoL compared to TGR in EOS
- Caregiver burden and satisfaction improve with casting
- Need longer-term studies to determine if results are maintained

