Conclusions

1. Despite decannulation, a large number of children still present with deficits in functional outcome at long-term follow-up.
2. Addition of pulmonary function tests, endurance tests, quality of life and voice assessment as outcome measures is important.
3. Glottic stenosis and co-morbidities are the most important factors for unfavorable outcome at long-term follow-up.

Introduction

LTS is rare but often requires tracheostomy and major surgical interventions. Little is known on the long-term functional outcome after decannulation.

Methods

All children treated with an LTR or CTR in a 15 year time period were invited for a follow-up visit. Pulmonary function, endurance, quality of life and voice quality was assessed.

Patients

65/80 included; median follow-up 7 years after surgery.
49/65 tracheostomy prior to surgery; all children decannulated.
44/65 Grade 3 or 4 LTS (Myer-Cotton); 27/65 glottic involvement.
36/65 comorbidities present.
62/65 ss-LTR performed.

Main findings

- Pulmonary Function Test: 58% impaired inspiratory airflow.
- Endurance test: 34% impaired exercise tolerance.
- Quality of life: 6/11 subscales impaired quality of life.
- Voice: 75% impaired voice quality.

Multivariate analysis

- Glottic stenosis and presence of co-morbidities significant factors for poorer long-term outcome after successful decannulation.

What has changed & future research

- When glottic stenosis is apparent, consider using a post-operative stent.
- Multi-disciplinary approach for children with comorbidities.
- Start up of a long-term multidisciplinary follow-up program.