Endoscopic airway assessment in recurrent croup – when to operate?

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Introduction

Croup is a common, self-limiting condition. Recurrent croup (>2 episodes) may suggest an abnormality of the upper airway. Children with recurrent croup often undergo microlaryngoscopy & bronchoscopy (MLB) to identify any structural abnormalities in the upper airway that may predispose to croup.

This study from a tertiary referral centre explores intraoperative findings in this cohort of patients.

Recurrent croup is relatively common and is reported to affect 6.4% of children in the first 4 years of life.

There is limited guidance related to which children need an airway assessment.

Methods

Notes of patients with recurrent croup retrospectively undergoing MLB were reviewed for demographic data, identifiable risk factors for subglottic stenosis (SGS), operative findings and outcomes.

Results

41 patients identified as undergoing MLB for recurrent croup, median age 2 years (range 11 months – 12 years).

31/41 patients without risk factors for SGS (76%).
2/31 patients referred to respiratory paediatricians for management of tracheobronchomalacia.
No patient required further surgical intervention.

10/41 patients with risk factors for SGS (24%).
1/10 patient required aortopexy, 3 patients referred to respiratory paediatricians with tracheobronchomalacia.

Operative findings – without risk factors (n=31)

- Normal (24)
- Reflux (3)
- Bronchomalacia (2)
- Type 1 laryngeal cleft (1)
- Atrophic VC (1)

Operative findings – with risk factors (n=10)

- Normal (4)
- Compression right main bronchus (1)
- Right vocal cord nodule (1)
- Tracheomalacia (1)
- Tracheobronchomalacia (1)
- Tracheomalacia plus mid-tracheal collapse (1)
- Sub-glottic stenosis Gr 1 (1)

Outcomes:
- 1 patient referred to cardiothoracics for aortopexy
- 2 patients referred to respiratory with tracheobronchomalacia
- 1 patient continued follow up with respiratory
- 6 patients discharged

Conclusion

- No patients in our study, without risk factors for SGS, required further surgical intervention.
- Further prospective studies required to investigate whether medical treatment should be trialed prior to MLB in this group.