Microdebrider Resection of Subglottic Cysts: Safe and Effective

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ABSTRACT

Objective: Pediatric subglottic cysts (SGC) are a rare but curable cause of respiratory distress. We present our experience with microdebrider resection of SGC with a laryngeal microdebrider.

Methods: Retrospective review between January 2004 and October 2008 at a tertiary care children’s hospital.

RESULTS

Eight patients with one or more SGC were treated with microdebrider resection. All records for each patient were available for review; no cases were excluded. Characteristics of eight patients ranged from 25% to 80% (mean 48%). Three patients had other clinically significant airway obstruction, and 18 cysts were excised. Mean surgical time was 36 minutes (range 26-59). Seven of eight patients (87.5%) were extubated by post-operative day one. Six of eight patients (75%) had a single treatment. One patient (12.5%) had a symptomatic recurrence with an average rate of recurrence is comparable to the lowest in the literature [5]. Early extubation was possible in 87.5% of cases, and only one patient required reintubation. This may reduce subglottic injury and has the potential to reduce ICU utilization.

Conclusions: The laryngeal microdebrider offers a safe and effective way to remove SGC with a low recurrence rate.

INTRODUCTION

Subglottic cyst (SGC) is a rare cause of respiratory distress. First described by Wigger and Tang in 1968, SGC occur almost exclusively in premature infants with a history of mechanical ventilation. The natural history of untreated SGC is characterized by progressive hypoxemia, airway obstruction, and death. Subglottic/subglottal subglottic stenosis and fibrosis may develop after resolution of the subglottic cyst. Although SGC usually resolve postnatally, early identification and treatment may improve outcomes. The laryngeal microdebrider offers an alternative approach to surgical treatment of SGC. We present the experience of eight patients with SGC treated by microdebrider excision at a single institution.

METHODS AND MATERIALS

IRB approval was obtained for retrospective chart review of all patients who underwent microdebrider resection of SGC during a 5-year period (January 2004 and October 2008). All charts were reviewed for data collection. Each chart was reviewed to determine the number of cysts, location of cysts, and duration of stay. Table 1 summarizes the clinical characteristics of the eight patients.

RESULTS

Eight patients underwent microdebrider resection of one or more SGC between January 2004 and October 2008. All records for each patient were available for review; no cases were excluded. Characteristics of eight patients ranged from 25% to 80% (mean 48%). Three patients had other clinically significant airway obstruction. Microdebrider resection proceeded without complications and operative times were brief.

Conclusions: The laryngeal microdebrider offers a safe and effective way to remove SGC with a low recurrence rate.

DISCUSSION

We present eight patients with SGC treated by microdebrider excision over a 5-year period. Patient characteristics, airway assessment, and outcomes are summarized in Table 1.

One patient (12.5%) had a symptomatic recurrence with an average rate of recurrence is comparable to the lowest in the literature [5]. Early extubation was possible in 87.5% of cases, and only one patient required reintubation. This may reduce subglottic injury and has the potential to reduce ICU utilization.

CONCLUSIONS

1. Microdebrider resection of subglottic cysts (SGC) is both safe and effective, with a low recurrence rate.
2. Early extubation may be achieved in all patients; this is important given the proposed pathophysiology of SGC formation and could help to reduce ICU utilization.
3. Larger cohorts and randomized trials are needed to further assess treatment algorithms for SGC.

REFERENCES