A Comparison of Adenoidectomy Revision Rates Based on Techniques

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INTRODUCTION

Adenoidectomy with or without tonsillectomy is one of the most common procedures performed by the Otolaryngologist. It is estimated that approximately 130,000 adenoidectomies per year are performed in this country.1 There is a roughly 0.5-3.0% incidence of adenoid growth requiring repeat surgery reported in the literature.1,2 There are a number of techniques used to remove adenoids available to the Otolaryngologist.

Two instruments for adenoidectomy have been used more commonly, suction coagulation (SC) and the microdebrider (MD).2,3-5 These devices have supplanted the older technique of curettage amongst many otolaryngologists due to improved visualization and greater precision in removing adenoid tissue. Thus far, there are no studies specifically comparing the two instruments in terms of eventual symptomatic adenoid regrowth and need for revision surgery. The goal of this study is to ascertain if there is significant difference in adenoid regrowth over time between the two groups.

MATERIALS AND METHODS

A retrospective chart review was performed from June 2007 through December 2011. Medical records were searched for CPT codes including secondary adenoidectomy or separate occurrences of adenoidectomy for the same medical record number. Charts were reviewed for age, sex, indications, concomitant surgical procedures, adenoid size, reflux and surgeon experience. Exclusion criteria included children who had their initial surgery at another institution, craniofacial or palatal anomalies, or if any method other than suction coagulator or microdebrider was used.

Adenoid size was subjectively graded and stratified into a priori scale ranging from 1 (no adenoid) to 5 (enlarged/obstructive adenoid). Data is presented as mean and standard deviation. A simple frequency tab was used to find the different frequencies, mean and standard deviation of various data variables. Frequencies were compared using two-by-two tables in Epi-info version 8 (CDC Atlanta). A p-value of less than 0.05 was considered as statistically significant. Data was deemed adequate if a test was performed with p<0.05 was considered as statistically significant. SPSS-14 statistical software was used to conduct the analysis.

RESULTS

During the 4.5 year study period, 7,399 adenoidectomies were performed with either MD or SC technique. Of these, 7,027 were analyzed. 4071 primary adenoidectomies were performed by MD, and 3328 by SC. There were a total of 120 revisions performed. Of these, 34 were initially performed by MD (0.84%), and the remaining were performed by other techniques or undocumented. The incidence rate between the MD and SC groups was statistically significant (p=0.007). (Figure 2) Males comprised 50.7% (17) of the MD group, and 74.3% (37) of the SC group. (Figure 2) Regarding technique, mean age at initial surgery was 45 versus 30 months, and 69 versus 58 months at revision, respectively. (Table 1) Mean size was 3.28+ versus 3.22+ at initial surgery, and 1.89+ versus 2.11+ at revision for MD and SC groups, respectively. (Table 2)

The most common indication for adenoidectomy, both initial and revision, across both groups, was for sleep-disordered breathing or obstructive sleep apnea (OSA/SOSA). Nasal obstruction and otologic indications (chronic otitis media, chronic ostium media) were followed in frequency. (Figure 3) The most common procedure performed at the time of adenoidectomy was tonsillectomy, and the second most common was tympanostomy tube placement. Other procedures comprised a very small percentage. (Figure 4)

The incidence rate of revision was low for both suction coagulation and microdebrider techniques, which are more preferred over the older technique of curettage. We found the rate of revision of suction coagulation to be higher than that of microdebrider. Risk factors requiring revision adenoidectomy have been studied and include younger age and GERD, which may have contributed to the differences between our study and prior studies.6

REFERENCES


DISCUSSION

The reported adenoidectomy revision rate regardless of technique is roughly 0.5-3.0%.1 Over the study period, we found an overall revision rate of 1.50% for MD and 0.84%, for SC. The MD group had a lower revision rate of 0.84%, while the SC had a revision rate of 1.50%. Possible risk factors that may have led to a higher incidence of regrowth in the SC group include the younger age at initial surgery, and a trend toward more patients with GERD noted in this group.

In this study, the mean age at initial surgery for the MD group was higher than that for the SC group (3.8 vs. 2.5 years). The difference was found to be statistically significant. A study by Deering et al.6 looking at factors associated with revision adenoidectomy, found age and adenoidectomy to be a significant risk factor for revision. Given this finding, the younger age of our patients in the SC group may have been a part of the reason why we saw more regrowth in this group, rather than the technique itself.

GERD has been shown to be associated with symptomatic adenoid hypertrophy as well as revision adenoidectomies.3,2 We have studied a trend toward a stronger history of GERD in the SC group (32%) when compared to the MD group (22%). GERD is more commonly diagnosed in younger children, and as mentioned, the SC group consisted of younger children in our study. It is unclear if GERD contributed to adenoid regrowth in these children.

CONCLUSION

The incidence rate of revision is low for both suction coagulation and microdebrider techniques, which are more preferred over the older technique of curettage. We found the rate of revision of suction coagulation to be higher than that of microdebrider. Risk factors requiring revision adenoidectomy have been studied and include younger age and GERD, which may have contributed to the differences between our study and prior studies.