Intracapsular Tonsillectomy for Sleep-Disordered Breathing in Adults

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INTRODUCTION

Objective: To review the experience of a single surgeon performing intracapsular tonsillectomy using the Microdebrider for the treatment of tonsillar hypertrophy causing obstructive symptoms in adults, and to determine whether intracapsular tonsillectomy was effective in relieving obstructive symptoms in this population.

Study Design: Retrospective case series. The charts of adults who underwent intracapsular tonsillectomy and total tonsillectomy performed by a single surgeon between the years of 2003 and 2008 were reviewed.

Methods: Results in 19 adults with a diagnosis of sleep-disordered breathing who underwent intracapsular tonsillectomy with the Microdebrider, with or without concurrent UPPP, were compared with the results in 19 adults who underwent standard tonsillectomy performed with monopolar electrosurgery, with or without UPPP, for the same indications. (38 patients total)

Results: There was no significant difference between the two groups in terms of intra-operative blood loss. There were no episodes of immediate post-operative bleeding in either group. One patient who underwent intracapsular tonsillectomy and two patients who underwent standard tonsillectomy experienced delayed post-operative self-limited bleeding that did not require intervention. No patient in either group required re-admission to the hospital post-operatively. Pre-and post-operative sleep studies were performed for one patient in group one and for two patients in group two. Studies showed improved AHI in all three cases. The effect of surgery on snoring was similar for the two groups.

Conclusion: Intracapsular tonsillectomy may be a feasible alternative to standard tonsillectomy in relieving obstructive sleep-disordered breathing in adults without increasing in post-operative complications.

METHODS AND MATERIALS

We reviewed the medical records of adults (n= 19, group 1) who underwent intracapsular tonsillectomy using the Microdebrider for tonsillar hypertrophy, with or without a history of chronic tonsillitis, causing symptoms of obstructive sleep disordered breathing. All surgeries were performed by a single surgeon (EPV), each surgery was performed at one of four institutions between the years of 2003 and 2008. For comparison, we reviewed the records of all adults (n= 19, group 2) who underwent standard tonsillectomy with electrocautery by the same surgeon over the same time interval at the same institutions for the same indications.

Adult patients were defined as patients 16 years of age and older. Excluded from this study were patients whose sole indication for tonsillectomy was chronic tonsillitis and who did not have symptoms of obstruction as well as patients who underwent tonsillectomy for biopsy of tonsillar masses, suspected lymphoma or who had a history of documented peritonsillar abscess.

Data collected from the charts included patient age, sex, diagnoses and indications for tonsillectomy, tonsil size as determined on pre-operative evaluation, method of tonsillectomy and concurrent surgical procedures performed at the time of tonsillectomy, intra-operative blood loss, intra-operative and post-operative complications, and overall pain levels during recovery.

CONCLUSIONS

Intracapsular tonsillectomy reduces the space occupied by hypertrophied tonsil tissue resulting in a wider airway and reducing snoring based on the Bernoulli effect. The widened airway leads to a decrease in velocity of the column of inspired air and reduced vibrations of the soft tissues of the oropharynx and soft palate. The very thin rim of tonsil tissue left adjacent to the tonsillar capsule does not appear to negatively influence the stability of the pharynx and, in fact, may even serve to make the soft tissue structures more stable by providing more integrity to these structures.

The two main concerns with intracapsular tonsillectomy that have been elucidated are that of tonsillar regrowth and that of chronic infection of retained tonsillar tissue. In regards to regrowth, this is primarily a concern in pediatric populations, as tonsillar tissue undergoes fatty degeneration after approximately age 25. (1,7,8,14) The potential for tonsillar regrowth in adults would be expected to be far less than in children. In our study, no signs of tonsillar regrowth were noted.

Though there is much discussion of the theoretical increased incidence of post-operative infection after intracapsular tonsillectomy, long-term follow up with targeted questions and exams are necessary to fully evaluate incidence and significance of infections after intracapsular tonsillectomy. In our limited study, no patients in either group experienced episodes of tonsillar infection or purulent drainage as documented in post-operative follow up appointments.

REFERENCES

8. Frerichs J, et al. Long-Term Improvement of Quality of Life as a Result of Tonsillectomy (With Radiofrequency Technique) and Tonsillectomy in Youth. The Laryngoscope. 2007;117:1272-1279.