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Impact of the pediatric tonsillectomy and polysomnography clinical practice guidelines

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ABSTRACT

Objective: To evaluate the effect of the recently published guidelines on *Tonsillectomy in Children* and *Polysomnography for Sleep-Disordered Breathing Prior to Tonsillectomy in Children* on physician practice patterns.
Study design: Cross-sectional survey.
Method: Survey of members of the American Academy of Otolaryngology—Head and Neck Surgery.
Setting: Academic tertiary referral center.
Results: A total of 280 physicians completed the survey, with a response rate of 41.7%. 93% of respondents had read the clinical practice guidelines. Many respondents had completed a pediatric otolaryngology fellowship (46%). A large group of physicians (46%) continue to prescribe antibiotics within 24 h after surgery. One-third of respondents stopped prescribing antibiotics because of the guidelines. Discord between severity of symptoms and tonsil size was the most common reason cited for ordering a polysomnogram prior to tonsillectomy (76%). The most common reason cited for admission post-tonsillectomy was age less than 3 (40%). Less than half of physicians prescribe NSAIDs for pain control (43.8%) despite its safety profile, and only 23% reported that the guidelines influenced their use of NSAIDs postoperatively. Most respondents use intra-operative steroids (90%) as recommended.
Conclusion: The guidelines are intended to provide evidence based direction in tonsillectomy practices and improve referral patterns for polysomnography prior to tonsillectomy. The majority of the surveyed otolaryngologists reviewed these guidelines and some have changed their practice secondary to the guidelines. However, many physicians continue to prescribe post-operative antibiotics and do not use NSAIDs.

Introduction

Clinical practice guidelines (CPGs) are constructed by medical groups using the literature, to guide physicians in the evaluation and management of patients. The overall goal of any guideline is to standardize care and improve the quality of care that patients receive. The American Academy of Otolaryngology—Head and Neck Surgery Foundation (AAO-HNSF) released two new CPGs in January and July of 2011: tonsillectomy in children and polysomnography for sleep-disordered breathing prior to tonsillectomy in children [1,2].

The CPG: tonsillectomy in children was created to help physicians safely and consistently identify pediatric patients who are optimal candidates for tonsillectomy (Appendix A). In addition, its objectives were to optimize perioperative management of children undergoing tonsillectomy, emphasize the need for evaluation and intervention in special populations, improve counseling and education of families who are considering tonsillectomy for their child, highlight the management options for patients with modifying factors, and reduce inappropriate or unnecessary variations in care [1].

Strong recommendations within the guidelines included administration of a single dose of intravenous intra-operative dexamethasone and avoidance of post-operative antibiotics. This contrasts with the results of our previous study, which showed that 85% of pediatric otolaryngologists and 78% of general otolaryngologists prescribed antibiotics [3]. Similarly, the CPG: polysomnography for sleep-disordered breathing prior to tonsillectomy in children was created to provide evidence-based recommendations for polysomnography (PSG) prior to tonsillectomy in children aged 2 to 18 years with sleep disordered breathing (Appendix B) [2]. PSG was recommended for patients with trisomy 21, obesity, craniofacial anomalies, neuromuscular disorders, sickle cell disease, mucopolysachridoses or in situations where the physical exam did not correlate with symptoms.

The literature shows that physicians are moderately compliant with CPGs. A review from Israel found that primary care physicians had an adherence rate of 55.4% when treating complicated

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Table 1
Questionnaire distributed to otolaryngologists.

Questionnaire
1. How many years have you been in practice?
a. 0–5
b. 6–10
c. 11–15
d. 16–20
e. 20+
2. Did you pursue a fellowship?
a. Yes
b. No
3. What subspecialty?
4. Have you reviewed the following guidelines?
a. Clinical practice guideline—tonsillectomy in children, published by Otolaryngology Head and Neck Surgery
b. Clinical practice guideline—polysomnography for sleep disordered breathing prior to tonsillectomy in children, published by Otolaryngology Head and Neck Surgery
c. Both
d. Neither
5. Do you routinely perform tonsillectomies for pediatric patients with recurrent throat infections with documentation (7 episodes in past year, at least 5 episodes per year for the past 2 years, or at least 3 episodes for the past 3 years with documented temperature > 38.3 C, cervical adenopathy, tonsillar exudate, or positive test for GABHS)?
a. Yes
b. No, I perform tonsillectomies for recurrent throat infections without documentation
c. No, I would observe these patients
6. Is this a change since the guidelines?
a. Yes
b. No
7. Do you administer antibiotics within the first 24 h of surgery?
a. Yes
b. No
8. Is this a change since the guidelines?
a. Yes
b. No
9. Do you recommend NSAID use for pain control?
a. Yes
b. No
10. Is this a change since the guidelines?
a. Yes
b. No
11. Have you noticed an increase in post-tonsillectomy hemorrhages since administering NSAID use for pain control?
a. Yes
b. No
12. Do you give patients an intra-operative dose of steroids?
a. Yes, all the time
b. No
Sometimes
13. Is this a change since the guidelines were published?
a. Yes
b. No
14. For which of the following types of patients do you routinely order a polysomnogram prior to tonsillectomy? (select more than one if applicable)
a. Age < 3
b. Age < 2
c. Age < 1
d. Obesity
e. Trisomy 21
f. Mucopolysaccharidosis
g. Sickle cell anemia
h. Craniofacial abnormalities
i. Sleep disordered breathing and small tonsils
j. Unclear symptomology
k. I do not order polysomnograms
l. Other
15. Who do you routinely admit post tonsillectomy? (select more than one if applicable)
a. Age <3
b. Age <3 and polysomnogram diagnosed OSA
c. OSA-regardless of age or medical history
d. Craniofacial abnormalities
e. Lives distance >1 h
f. Trisomy 21
g. Bleeding disorder
h. I do not admit patients for overnight stay
i. Other

episodes of acute otitis media [4]. In 2012, Aarts et al. examined the impact of CPGs on Dutch otolaryngologists [5]. In this study, 70% of respondents reported that their daily clinical practice was influenced by evidence-based guidelines. Of these, 62% stated that evidence-based guidelines supported their clinical practice while 32% stated that guidelines directed their clinical practice. The purpose of our study is to determine if otolaryngologists have changed their tonsillectomy practice or PSG referral pattern following publication of the CPGs.

Subjects and methods

A 15-question survey regarding the CPGs was designed (Table 1) to ascertain the influence they had had on practice patterns. Open-ended questions were included to provide the opportunity for participant feedback if his/her preference was not listed. The potential list of participants was obtained from the member database of the AAO-HNSF. Those who were designated as pediatric otolaryngologists ($n = 299$) regardless of fellowship status were included in the study group. Of the remaining members, 372 were randomly selected for inclusion in the study. A total of 671 United States Board Certified otolaryngologists were invited by email to complete the survey via Survey Monkey® in the fall of 2011. A second invitation was sent to physicians in the winter of 2012. Data was analyzed using the Statistical Package for the Social Sciences software package v. 17 (IBM®, Chicago, IL, USA). The Penn State University Institutional Review Board reviewed and approved this study.

Results

Demographics of participants

280 physicians returned the survey, yielding a response rate of 41.7%. Ninety-three percent of respondents had read the CPG: tonsillectomy and/or CPG: polysomnography for sleep-disordered breathing prior to tonsillectomy in children. Respondents who read at least one of the two guidelines were included in the results. Participants who had not read either of the guidelines were excluded ($n = 23$). Four of these physicians were fellowship trained pediatric otolaryngologists. The number of years in practice did not significantly influence who read the CPGs. Forty five percent of respondents ($n = 127$) had completed a pediatric otolaryngology fellowship. Eighty-eight percent of Pediatric Otolaryngologists read both CPGs. In relation to experience, physicians that had been in practice for over 21 years formed the largest group (Fig. 1).

CPG: Tonsillectomy

Almost half of respondents (46%) continue to prescribe perioperative antibiotics for their tonsillectomy patients

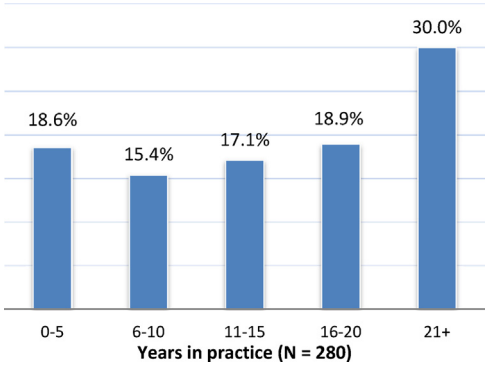

Fig. 1. Years in practice of participants.