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Gizmo Is a Mean Word!

Peter J. Koltai, MD[1]

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Abstract

The editorial titled "Gizmos" in the April issue of *Otolaryngology–Head and Neck Surgery* was unfortunate. Intracapsular tonsillectomy is a rational surgical option for managing tonsillar hypertrophy causing obstructive sleep apnea in selected children. It is performed routinely by surgeons across the globe and has become the standard of care across northern Europe due to the high safety profile of the operation. The semirigid, dartlike design of the sinuplasty devices suggested the idea for an airway-specific set of high-pressure balloons. We began working on these in 2007 and had FDA approval in 2009. They are in wide use by many airway surgeons. Lingual tonsils are a frequent cause of obstructive sleep apnea, and there is no tool that manages this as effectively as endoscopic plasma ablation. We are all engaged in an honorable effort to improve care; surgical and creative skills are as important as analytical skills. Both are necessary for the continuous improvement of our work. Both are worthy of respect.

Keywords

gizmo, intracapsular tonsillectomy, powered adenoidectomy, high-pressure airway dilation balloons, lingual tonsillectomy, plasma ablation

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When I saw the editorial titled ''Gizmos'' in the April issue of *Otolaryngology–Head and Neck Surgery*,[1] I thought, ''That is an unfortunate word.'' After starting to read the article, I had a sense that intracapsular tonsillectomy would be one of the targets, and indeed I was not disappointed. However, I was surprised when I saw that high-pressure airway dilation balloons and plasma ablation were included as well. Given the unkind nature of the editorial, I felt I should respond.

For the sake of full disclosure, I have had a royalty agreement for the design and development of an FDA-approved microdebrider for intracapsular tonsillectomy and adenoidectomy. I was also involved in the design and development of the FDA-approved high-pressure airway balloons and continue to work on the next generation of these devices. We have been using plasma ablation for lingual tonsillectomy for the past decade,[2] and this does not have specific FDA approval. I have had modest profit from and great pride in the wide acceptance of these tools into our surgical armamentarium.

A little history will help here. In 1993, I saw the first demonstration of the use of a microdebrider for endoscopic sinus surgery by Dr Ruben Setliff, who had conceived the technique. He used an instrument that had been developed for temporomandibular joint (TMJ) arthroscopic surgery. The device had failed as a treatment for TMJ pain, but it was revolutionary for sinus surgery and its use rapidly spread; it didn't take randomized controlled studies to convince most of us of this new tool's utility. Another device manufacturer had a microdebrider line for arthroscopy and had patented a bendable blade that we found an elegant tool for shaving adenoids from the nasopharynx.[3,4] In 1996, after considerable experience performing powered adenoidectomy, I saw an 11-month-old infant who was failing to thrive due to tonsillar and adenoidal hypertrophy causing severe obstructive sleep apnea (OSA), with a high apnea hyponea index and significant desaturations. The child failed aggressive medical management. Given our positive experience with the microdebrider for lymphoid tissue, and being familiar with the history of tonsillotomy and knowing how challenging a tonsillectomy would be for such a young child, I proposed an intracapsular tonsillectomy to the parents, and after appropriate consultation and discussion they accepted. The surgery was quick and uneventful. The postoperative recovery was rapid and remarkably benign. After our encouraging first experience, we cautiously started offering this procedure but confined our indication to very young children with severe OSA who had large exophytic tonsils, aware that we were challenging a century of tonsillectomy tradition. As our experience and confidence with the technique grew and I after I became aware of the work of Elizabeth Hultcranz in Sweden,[5,6] we began publishing our work in 2001,[7-9] causing considerable controversy that continues today.

[1]Stanford University, Stanford, California, USA

Corresponding Author:
Peter J. Koltai, MD, Stanford University, 801 Welch Road, Stanford, CA 94305, USA.
Email: koltai@stanford.edu

Many studies have been conducted on the subject of intracapsular tonsillectomy, and I recognize and acknowledge the variability of the results reported in the literature. Nevertheless, with a personal experience of well greater than 1000 cases, I have yet to see a child with a postintracapsular tonsillectomy bleed that required a trip back to the operating room to control hemorrhage. Our rates of postoperative recovery time have remained about half as long as for a total tonsillectomy, which, incidentally, I continue to perform regularly when indicated. Our regrowth rate has been remarkably consistent at 0.5% for the past decade. Intracapsular tonsillectomy is a rational surgical option for managing tonsillar hypertrophy causing obstructive sleep–disordered breathing in selected children. It is performed routinely by senior surgeons across the globe and has become the standard of care across northern Europe due to the high safety profile of the operation.

The history of airway dilation is more than 150 years old, and high-pressure balloons have been used for this purpose since 1984.[10] Our early experience with airway balloons began with devices originally intended for angioplasty, which were awkward in the airway. In 2005, I saw the first sinuplasty balloons at the fall AAO-HNSF meeting in Los Angeles. The semirigid, dartlike design of these devices suggested the idea for an airway-specific set of high-pressure balloons. We began working on these in 2007 and had FDA approval in 2009. It would be interesting to see how many airway surgeons would prefer to do without this technology.

Finally, solid data have emerged concerning the variable success rate (50%-80%) in the effectiveness of adenotonsillectomy for the management of pediatric sleep apnea. Our work over the past decade has focused on these failures. Our primary tool in diagnosis of the site of persistent obstruction has been the use of drug-induced sleep endoscopy. An important observation has been the importance of the lingual tonsils and the retrusion of the tongue base as a frequent cause of failure. Managing this problem was difficult until we worked out an endoscopic technique of using plasma ablation to remove the lingual lymphoid tissues. I know of no other tool that does this as effectively.

Now back to the unfortunate editorial. *Gizmo* is a mean word, a pejorative word, a word connoting frivolousness, even dishonesty. While there is no denying there are plenty of ''gizmos'' out there, even for the sake of rhetoric it is disingenuous to compare the ''violet ray device'' to thoughtfully engineered instruments that are successfully used internationally for managing difficult surgical problems.

Our specialty is strong because among us we have many diverse skills. Ingenious analytical skills and creative surgical skills are important, yielding evidence and experience, the yin and yang of our craft. Both are necessary for opening the gates of perception a little wider for all of us. Both are necessary for the continuous improvement required for the safety and quality of our work. Both are worthy pursuits. Both are worthy of respect.

Author Contributions

Peter J. Koltai, sole author.

Disclosures

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