

I would like to share with you the contents of a letter sent to Sheila Allen, AORN President, for the members of AORN in the aftermath of the events of September 11th.

"The entire world watched the events of that day unfold with horror and disbelief. Our hearts go out to those who lost loved ones and friends, and to all affected by that senseless act of terrorism. This was truly a global tragedy and we mourn with you for the lost lives, from the United States as well as all the other nations.

In the first days, many of our thoughts were with our perioperative nursing colleagues as

they awaited an influx of casualties, which never materialised in the numbers we all would have liked to have seen. We know that our colleagues provided their patients with the best care possible, and commend them for their efforts under incredibly difficult conditions.

Please pass on our thoughts to our AORN colleagues and staff, especially to those in New York, New Jersey and Washington, DC."

ORNAC extends its thoughts and condolences to all those affected by the events of September 11th, wherever they reside. □

N&LORNA Conference Report

The Newfoundland and Labrador Operating Room Nurses Association (N&LORNA) held its twenty-second Annual Provincial Conference in St. John's from September 27th to 29th, 2001. We were honoured to have Mary Knight, President of ORNAC, give our keynote address.

The theme was Communication: The Key To Unmasking Perioperative Nursing with emphasis on Recruitment and Retention.

An invitation was extended to nursing students of Memorial University's School of Nursing and we were pleased to see several students in attendance

Our theme paralleled our provincial tourism's year-long theme, "Receiving the World - Celebrating Communication", in honour of Guglielmo Marconi who received the first wireless trans-Atlantic message on Signal Hill, St. John's, NF on December 12, 1901. Little did our provincial government know when they decided on a theme that on September 11th we would literally "receive the world" when some 70 aircraft carrying over 13,000 international passengers descended on Newfoundland and Labrador. People slept in crowded hotels, on cots in school gymnasiums, on church pews and in private homes. Most of them had never heard of Newfoundland and Labrador before they experienced our hospitality for the first time, but I am certain that it has been unmasked and communicated around the world.

Our OR conference's topics included:

- RNFAs in Newfoundland

- CJD
- Anaesthesia/Hypothermia
- Operation Smiles
- The Future of Perioperative Nursing

Some of the main topics of our Annual General Meeting were:

- Membership Fees
- Review of Certification and Re-Certification Funding
- Election of Officers

The social highlight of our conference was the dinner and dance, which continued our "Communication" theme. There were costumes with the dots and dashes of Morse Code, kites and aials, cell phones, a couple dressed as black and white TVs and even Marconi himself made an appearance.

Send-Off for the United States Military

After the dinner, some members of a Squadron of United States military personnel staying overnight at the hotel (on their way to parts undisclosed) were invited to join our dance and celebrations. They were very appreciative of our invitation and of the warm send-off from North America.

Evaluations received from all our OR nurses rated the conference a huge success.

Submitted by: Lynn Anderson, RN, CPN(C), Past-President (2001 -2003)

Tonsillectomy

A Comparative Study of Dissection/Snare vs Suction-Cautery

By Colleen Young, R.N. and Dr. John MacRae, M.D., F.R.C.S.(C.)

Abstract

In an optimal situation, a surgical procedure would be one that generates minimal post-operative pain, incurs little or no bleeding, and allows the patient to return to their normal daily activities in the shortest time period. A tonsillectomy is one of the most common operations performed in the world. Various surgical procedures for tonsillectomy are performed with a wide array of opinions to support the pros and cons of each technique.

Objectives/Goals:

To determine if there is a significant difference between two methods of tonsillectomy.

Methods and Materials:

A prospective single blinded randomized control study using (i) A dissection/snare technique, and (ii) A suction-cautery method. Measured outcomes such as blood loss, surgical time, post-op pain, post-op hydration, pyrexia, and the length of time to resume normal daily activities will be assessed.

Results: In total, 50 patients were studied, 23 in the dissection/snare technique, and 27 in the suction cautery technique. Inclusion criteria was, the patient must be at least 2 years of age and not older than 16 years of age. Data was collected intra-operatively, at 2 and 4 hour post-op intervals, as well as a 2 week follow-up questionnaire completed by the parents.

Conclusions: The suction cautery group had statistically significant differences in blood loss, surgical time and pain in the immediate post-operative period.

Introduction

Tonsillectomy represents one of the most common surgical procedures performed in North America, and most certainly one of the most common for children under the age of 16. As with any surgical procedure, associated risks are a reality and may play an integral part of a patient's recovery. The fact that there are many different surgical techniques available, a surgeon must determine which method is best suited to minimize such risks. Currently at Joseph Brant Hospital in Burlington Ontario, tonsillectomy is performed by either a dissection snare or suction cautery method. This prospective single-blind random controlled study was designed to determine if there are significant differences between the two methods, thus allowing the surgeon to make an informed decision as to which method is best suited for his patients. The measured outcomes include blood loss, operative time, pain, post-op hydration, pyrexia oral intake and resumption of normal activities.

Materials and Methods

All surgeries were performed by the same surgeon. A week prior to their child's scheduled surgery the parents were contacted and the study was outlined. All participation was completely voluntary.

Patients included were children 2 years of age and not older than 16 years of age, undergoing a tonsillectomy.

Authors

Colleen Young, RN, is a staff nurse, and Dr. John MacRae, MD, FRCS(C), is an Otolaryngologist at Joseph Brant Hospital, Burlington, ON. This study was presented by the authors at the Nursing Symposium at the Canadian Society of Otolaryngologists and Head and Neck Surgery in Vancouver, BC, May, 2001.

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tomy, either alone or possibly in conjunction with an adenoidectomy. Children with any bleeding disorders or craniofacial abnormalities (i.e. cleft palate) were excluded from the study.

All parents were asked to sign an informed consent allowing either surgical technique to be used. Parents would be blinded as to which technique was used at any point in the study. Their responsibilities involved keeping a diary for two weeks post-operatively, and returning the data by mail. They were made aware their participation was completely voluntary and could withdraw it at any time.

In total, from September 4th, 2000 until January 17th, 2001 - 50 patients in total participated. In the Dissection/Snare group, 23 patients, 11 male and 12 female. In the Suction Cautery group, the total was 27, 16 male and 11 female.

Once the patient had been brought into the O.R a random draw was made to determine which method would be used on that patient.

Surgical Technique

In the Dissection/Snare method, the operative time was recorded from the insertion of the Boyle-Davis mouth gag. Adenoids were removed by curettage after direct palpation, using an adenotome. The tonsil was then grasped using a curved allis forcep. blunt scissor dissection was carried out along the superior pole to expose the capsule. The tonsil was regrasped and using a Fischer Knife, the tonsil was dissected from the tonsil bed to the lower attachment at the base of the tongue. The tonsil was then snared out in a guillotine fashion. Homeostasis was achieved by packing the tonsil bed with a Bismuth Subgallate and topical adrenaline paste mixture. Cautery with a monopolar bayonet forcep set at 20 coag. on a Valleylab Force 2 machine was used to cauterize point bleeders. The end of the operative time was noted once the Boyle-Davis gag was removed.

In the Suction Cautery method the palate was retracted by 2 size 10 fr. red rubber catheters passed through the nose and brought out the mouth. The ends were clamped to a head drape to provide the traction. The tonsils are grasped with a curved Allis. A suction cautery size 10 fr. by Valleylab was used to incise along the anterior portion of the tonsil. Dissection continued along the tonsil bed separating the capsule from the bed, aided by traction on the tonsil with the

allis.. Settings on the Valleylab cautery machine was Cut @30 Coag @ 55 blend 2. Under indirect visualization with a laryngeal mirror the nasopharynx is examined. The suction cautery is the used to vaporize and coagulate the adenoid tissue. Care is taken around the area of the eustachian tube and posterior choana. Cautery of the posterior mucosa of the palate is also avoided to prevent a circumferential burn. The settings for the Valleylab are Cut @ 40 Coag @ 65 on blend 2.

All blood loss for both techniques was recorded in a cone and read by the same investigator. Operative time was recorded from the time the Boyle Davis gag was in place until the tonsils were removed and homeostasis was established, and the gag was removed.

Decadron .1 mg./kg. was given to each patient in both groups. Analgesic given intra-op was codeine or fentanyl, given by weight - mg/kg. ratio and was given either during the procedure, or immediately upon arrival to the recovery room depending on the anesethist on that day. Both groups were treated the same.

Upon returning to the day surgery unit, a record was kept to record fluid intake and pain levels by a simple word description pain scale. Readings were taken at 2 hours and 4 hours post-op. The nurses recording this data were blinded to the technique used and the records were collected after the patients were discharged. Hospital policy requires the tonsillectomy patients to remain in hospital for a minimum of 4 hours and may be discharged only after being examined by the surgeon.

Using a simple descriptive word pain scale the nurses would categorize the pain levels as none, mild, moderate, severe or excruciating. Upon discharge the parents were given a questionnaire, in which they were responsible for recording their child's pain level and temperature twice daily for 14 days. The same simple descriptive word scale applied. Agreeably, a parents' interpretation of their child's pain may be subjective, however, the consistency in which they rate the pain in the post-operative period would help to eliminate any bias. The questionnaire also included 3 short questions pertaining to when the child first ate solid food, resumed a "normal diet" and returned to their normal activities. Parents were also asked to provide details of any complications or any concerns they may of had and if there was ever a need to seek further medical attention.

Results

In total, 49 patients completed the study. In the dissection/snare group, there were 11 male patients and 12 female. The youngest was 2 years and 8 months old and the oldest was 15 years. Average age: 7 years and 2 months. In the cautery group, there were 15 male and 11 female patients. The youngest was 2 years and 10 months. The oldest was 12 years old. Average age in this group was 6 years and 1 month. One parent left the questionnaire behind upon discharge, so that data was excluded from the study.

The average blood loss in the cautery group ranged from 2 ml to 10 mls. The standard mean was 4.92 mls. (S.D. 2.21). In the Dissection/Snare group the range of blood loss was 5 mls. to 120 mls. The mean was 32.17 mls. (S.D. 22.4) with the use of the t-test the calculated $t = 5.81$, ($p < .05$) which proves to be statistically significant.

Operative time in the cautery group, ranged from 4 minutes to 14 minutes. The mean is 7.18 minutes. (S.D. 2.88) and in the dissection/snare group a range from 11 minutes to 25 minutes, the mean time is 16 minutes (S.D. 3.98) Calculated ($t = 2.37$, $P < .05$) in both of the parameters above the results are statistically significant.

Post-operatively the patients were cared for in the day surgery unit. The next phase of the study, data was collected for post-op pain and fluid intake at 2 and 4 hour intervals. The nurses were given direction to record the patients pain level and using the simple word descriptive pain rating scale, circle the appropriate word best suited to how the patients were feeling. After the data was collected the descriptive were given a numerical indicator to calculate the significance.

At 2 hours post-op the dissection/snare group, the standard mean was 1.66 and the standard deviation was .623. The cautery group the standard mean was .869 and the standard deviation .536. Using again the Student's t test the calculated $t = 4.57$ $p = .001$ indicating that with the snare procedure patients had more pain. At 4 hours post-op the calculated $t = 4.18$ $p = .001$ once again indicating that the measured outcomes of these parameters, the snare procedure is significantly more painful.

Fluid intake at 2 and 4 hours post -op did not appear to have any significant differences, however one might wonder if the design of the outpatient tonsillectomy policy might play a major role and lend some bias unknowingly. It is understood that the criteria needed to be met for these children to be discharged home after 4 hours is they must have adequate fluid intake. Nurses on the floor would likely "push fluids" to ensure their discharge. Those patients under the age of 3 or those residing longer than 30 minute drive are required to stay in hospital overnight. We did not explore any possibilities in to this theory, as the numbers of those patients were minimal. (See Table 1).

When using the data to perform a multiple correlation analysis, pain at 2 and 4 hours post-op were described as the dependent variables. The model used states that pain is a function of technique, age gender and surgical time. Predictions concluded that at 2 hours post-op:

- females had less pain than males,
- as males got older, the pain worsened, and
- pain was statistically significant in the snare technique.

The questionnaire portion of the study involved the parents to answer three short questions and keep

a log of their child's temperature and pain level. Of the responses returned in the dissection/snare category there was a 52.1% return. In the cautery group, there was 53.8% return. The questions were:

1. When did your child first eat solid food?
2. When did your child return to eating "normal"?
3. When did your child return to normal daily activities, (i.e. school or daycare)?

Once again using a student's t-test to calculate the responses, there were no significant differences between the two groups.

In the pyrexia category, the cautery group, 42.8% of the group experienced fever not higher than 100.8 and only one had a fever later than post-op day 3. In the snare/dissection group, 75% of the group had a fever but 7 were noted past day 3, and 3 patients had a fever as late as days 10 to 13.

Parents were also given a opportunity to provide any details of any complications or any comments about their child's recovery. Both groups noted that their child experienced ear pain equally and those who did visit their family physician were often given a prescription for antibiotics without proof of infection. Interestingly, they also claimed immediate relief.

It was also noted that some parents were not giving sufficient pain medication. When this was noted and sufficient pain medication was given their child greatly improved. Neither group reported any indication of secondary bleeding in the recovery stage.

Discussion

Ultimately the challenge is to find the ideal method of tonsillectomy. The patient undergoing surgical procedures deserves to be treated with the optimal technique that provides minimal morbidity.

Our conclusion is that through valid statistical analysis, measured outcomes such as shorter operative time, less blood loss and less pain in the immediate post-op recovery period with the use of the suction cautery technique would make this the technique of choice. The relationship between the amount of time per surgery to the number of surgeries in a day could easily have clinical significance as well. Arguments could be made, that minimal blood loss and lowered pain levels could demonstrate shorter length of stay required in the Day Surgery unit. These parameters would likely have to be reviewed in accordance with hospital policies, but the evidence does lend credibility.

This study did not research post-op hemorrhage in the two week follow-up, however none were reported in either group.

As with any surgery, the anesthetist plays a vital role. With the suction cautery technique, the benefits to the anesthetist include a shorter anesthetic. For the patient, a virtually dry nasopharynx upon extubation, which minimizes the risk of aspiration, as well minimal volume depletion from blood loss intra operatively.

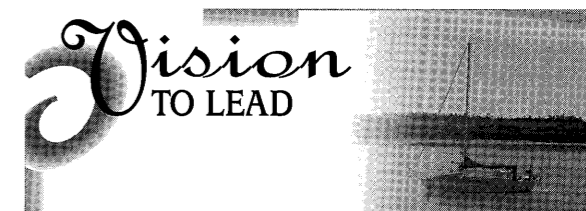
Acknowledgements

We gratefully acknowledge the Joseph Brant Hospital Operating Room staff, the nurses from 3 West and 3 South for their support throughout this study. Thanks also to Bette Zeran for providing great resource materials, and to Tom Remegio for his assistance with the statistical analysis. Finally, to the children and parents who volunteered to participate, our gratitude for allowing us to further our knowledge in this area. □

Table 1.

	Suction-Cautery X ± S.D.	Dissection/Snare X ± S.D.
Blood Loss	4.92 ± 2.21	32.17 ± 22.4
Operative Time	7.18 ± 2.88	16 ± 3.98
Fluid Intake 2 hrs post	279.56 ± 141.38	226.66 ± 113.38
Fluid Intake 4 hrs post	321.3 ± 227.8	256.25 ± 107.09
Pain Level 2 hrs post-op	.869 ± .536	.623 ± 1.66
Pain Level 4 hrs post-op	.826 ± .636	1.58 ± .571

N = 49 P = .05



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