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Short Communication

Utilizing video laryngoscopy before thyroidectomy in a hospital in Mangalore

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ABSTRACT

The highly debated opinion of whether a pre-operative video laryngoscopy was necessary to both patient care and doctor safety would be answered by the clinical insight into a local hospital who's standard of care involves performing a video laryngoscopy before any major thyroid surgery. Aims and objectives of the study were to improve patient care and quality of life and ensure appropriate and proper investigation of the patient. Record based retrospective study assessing all patients that came for thyroidectomy during the time period from January 2022 to December 2022. 100% of patients who came to our hospital with any indication of thyroidectomy underwent video laryngoscopy preoperatively. We recommend video laryngoscopy (VLS) to be done in a 100% of cases of patients posted for thyroidectomies in the near future as it benefits both the patient and the doctor.

Keywords: Video laryngoscopy, Thyroidectomy, Vocal cord paralysis, Preoperative

INTRODUCTION

A well-researched, routine operation in contemporary medicine that can be used to treat benign or malignant diseases of the thyroid and even hormonal disorders which are not responsive to currently available medication is thyroidectomy.[1] A dreaded complication of the procedure though is recurrent laryngeal nerve injury which may cause vocal cord paralysis that my distress the patient both in mind and body.[2-4] This is not to mention the medicolegal issues that may arise between the patient and the hospital as a whole.

The American Thyroid Association recommends that all patients should have their voice assessed and those with history/preoperative evidence of voice alterations, cervical or upper chest injuries, posterior extension of thyroid malignancy or extensive metastasis should undergo video laryngoscopy (VLS) before thyroid surgery.[1] While preoperative and postoperative evaluation of laryngeal function has been suggested as the best practice for patients undergoing thyroid surgery, its regular application is still debated.[5-7] This debate may have risen because although laryngoscopy is a rather simple and effective for laryngeal inspection, it is challenging to execute this procedure routinely on all patients due to its discomfort and expense.[8]

Strong support has also been provided for its routine application as a preoperative procedure before thyroidectomy surgeries.[8-10] This includes the report that greater than one third of cases with unilateral vocal cord paralysis remain symptomless.[8,11]

In our hospital, the minimum expectations set for each and every patient who has an indication for thyroid surgery is to undergo a preoperative 70° VLS. In this audit we will only be considering whether the patient has documented evidence of having undergone a 70° VLS during the

preoperative period before thyroidectomy to come to a conclusion of our current standard of care and elevate it.

Purpose

Purpose of the study was to improve the care of patients presenting with an indication for thyroidectomy and promote patient's quality of life after such surgeries.

Objective

Objective of the study was to ensure that patients who are to undergo thyroidectomy are investigated properly.

Standards

100% of patients coming to the ENT department with an indication for thyroidectomy undergo a 70-degree video laryngoscopy pre-operatively.

Design

The design was adopted from the 2015 American Thyroid Association Management guidelines: "preoperative laryngeal exam should be performed in all patients with preoperative voice abnormalities; history of cervical or upper chest surgery, which places the RLN or vagus nerve at risk; and known thyroid cancer with posterior extrathyroidal extension or extensive central nodal metastases.

Voice alteration is an important complication of thyroid surgery affecting patients' quality of life (regarding voice, swallowing, and airway domains), and it can have medico-legal and cost implications.

Preoperative assessment provides a necessary baseline reference from which to establish perioperative expectations. Also, preoperative voice assessment may lead one to identify preoperative vocal cord paralysis or paresis, which provides presumptive evidence of invasive thyroid malignancy and is important in planning the extent of surgery and in perioperative airway management. Contralateral nerve injury at surgery in such patients could cause bilateral cord paralysis with airway implications.

It is important to appreciate that vocal cord paralysis, especially when chronic, may not be associated with significant vocal symptoms due to a variety of mechanisms, including contralateral vocal cord compensation.

METHODS

This record based retrospective study was done as a part of the quality audit in the department of otorhinolaryngology, Kasturba Medical College Hospital Attavar, Mangalore.

Case records of patients who came to the ENT department and were diagnosed to have a disease which served as an indication for thyroidectomy as the highest rate of cure over a period of 12 months between January 2022 to December 2022 were selected by convenient sampling method and information recorded therein were filled in a "study performa" from which results were subsequently tabulated and analysed. The number of case records sampled for the audit came up to 23 (n=23).

The audit tool will assess one main aspect which is whether the patient underwent initial assessment with 70-degree video laryngoscopy before any thyroidectomy procedure.

Patient confidentiality is maintained.

RESULTS

Out of the 23 patients that underwent thyroidectomy in the year 2022, all 23 patients underwent preoperative 70-degree video laryngoscopy (i.e. 100%) as indicated by its documentation in the patient's file.

VLS was done one-day prior after explaining the entire procedure and receiving their explicit consent. It was done in the ENT OPD by introducing a 70^{o} endoscope through the oral cavity. The larynx was visualised and the assessment of bilateral vocal cords was done during both phonation and respiration.

DISCUSSION

Our hospital requires a VLS be done before every thyroidectomy procedure whereas we are sure that this is not a standard practiced in most hospitals. This quality standard was met in all patients who came to KMC Hospital Attavar for thyroidectomy in 2022.

Communication is a key aspect of being a human and we intend to preserve that aspect. Preoperative laryngoscopy determines how the surgery will proceed and will help us determine any additional safety measures we may have to take due to other pre-existing conditions we might discover.

The main problem that can come out of not performing a 70^{o} VLS before the surgery is that you may miss an already existing vocal cord palsy that was asymptomatic. If the patient develops any symptom indicating vocal cord palsy such as dysphonia, a pre-operative laryngoscopy would be instrumental in determining if this was a result of a pre-existing insult or iatrogenic. Although this is a rare incidence as indicated by the results of similar studies such as the one done by Agu et al whose team only saw vocal cord palsy in 3 of the 25 patients they evaluated with all 3 of them having preoperative hoarseness.[5] A single case of vocal cord palsy noticed in a previously asymptomatic patient was noted by Schlosser et al whose sample size gave strong support to rarity of preoperative asymptomatic vocal cord palsy.[12]

CONCLUSION

Although pre-operative VLS is not routinely recommended by most major thyroid surgery guidelines, it has the potential to provide significant benefits in all cases where it is utilized. In settings where VLS is both affordable and readily accessible, there is little justification for not incorporating it into pre-operative assessments. While our study, along with previous research, supports the finding that asymptomatic vocal cord dysfunction in thyroid patients is rare, it is not entirely absent. Therefore, even a small chance of improving patient outcomes should encourage the use of VLS to optimize care and reduce the risk of missed diagnoses.

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