

ENDOTRACHEAL TUBE USING C-MAC VIDEO LARYNGOSCOPE D= AN OBSERVATIONAL STUDY ON THE RISK FACTORS AND INCIDENCE OF POSTOPERATIVE SORE THROAT (POST) IN FEMALE PATIENTS INTUBATED WITH FLEXOMETALLIC BLADE

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ABSTRACT

Mc Hardy FE et al. conducted a study on POST: Aetiology, prevention, and therapy in 1999. Only two patients complained of sore throat following indirect questioning of 129 patients, but 28 patients complained of sore throat after direct questioning of 113 individuals. This disparity may be related to the degree of symptoms. The patient's attention may be drawn to the pain connected with surgery rather than the minor sensations associated with anaesthetic. The goal of this article is to go over the reasons that can induce postoperative throat symptoms like pain, dysphagia, and hoarseness after using tracheal intubation, the laryngeal mask airway (LMA), or the oral (Guedel) airway, as well as possible treatments. He found that postoperative throat discomfort symptoms such as painful throat, hoarseness, and dysphagia are prevalent and are connected with laryngeal and pharyngeal damage.

I. INTRODUCTION

POST is one of the most common and unwelcome side effects following surgery. It is thought to be caused by mucosal dehydration or edoema, tracheal hypoxemia caused by compression of endotracheal tube cuffs, frequent oral and pharyngeal suctioning, and mucosal damage caused by endotracheal tube pressure on delicate tissue. The most prevalent cause of POST could be connected to the type of anaesthesia used for intubation, the type and size of endotracheal tube or laryngeal mask airway, and the duration of the surgery. Age and gender are also crucial considerations for POST.¹ The incidence of POST has been found to range from 60% to 90%² depending on risk factors, race, and religion, with women having a higher rate.³ Methods for reducing the occurrence of POST have been developed. POST has been reported to be reduced by ketamine⁴, lignocane⁴, and dexamethosone⁵. Less POST has also been linked to smaller tube sizes, laryngeal mask airways, and improved video laryngoscopes.³ The force used to the laryngeal aperture is thought to be smaller with newer video laryngoscopes⁶ than with conventional ones, making them less stressful and producing less POST. Because there is a scarcity of research on POST in female patients, this study will be conducted to assess POST in female patients scheduled for elective surgery under general anaesthesia and intubated with a CMAC laryngoscope D blade.

II. METHODOLOGY

After clearance from the Institutional Ethical Committee, this prospective, observational study will be done at Desh Bhagat University in 75 female patients aged 18 to 60 receiving elective surgery under general anaesthesia. IEC.1480. INCLUSION CRITERIA: 1. The 18 to 60 age range. 2. Grade I or II on the ASA. 3. People getting general anaesthetic for elective surgery. EXCLUSION CRITERIA: 1. Grades III and IV of ASA 20 2. Patient rejection. 3. Patients with abnormalities of the airways and upper airway tumours. 4. People who will be undergoing surgery while under regional anaesthetic. 5. A list of patients requiring urgent surgical treatments. Patients who are obese. Patients who are edentulous. 8. People who can't open their mouths. 9. Patients with fractures and deformities of the cervical spine. Sample size: It is estimated that flexo-metallic tube intubations utilising the C-MAC video laryngoscopy D-blade occur 5% of the time in our hospital. The sample size is calculated to be between 73 and 75, with a 95% confidence level and a precision of 5%. Prior to the procedure,

a full pre-anesthetic assessment was performed. Every patient was asked to sign a written informed consent form. Preoperative investigation was carried out based on the surgical procedure, the patient's physical condition, and his or her age. Patients were required to fast for 6 hours prior to surgery. All planned patients received alprazolam 0.5 mg at night and 0.25 mg and tablet ranitidine 150 mg orally on the day of surgery. After entering the operating room, baseline parameters were applied. An 18G intravenous cannula was established, and the patient was given: Midazolam injection (0.03 mg/kg), glycopyrolate injection (0.2mg), and nalbuphine injection (0.1mg/kg). All of the patients underwent the same general anaesthesia technique. Following four minutes of pre-oxygenation, the patients were given the conventional induction approach, which included inj. propofol 2mg/kg and neuromuscular blocker inj. vecuronium 0.1mg/kg. After four minutes of oxygen breathing, a C-MAC video laryngoscope with a D-blade was used to perform direct laryngoscopy. Glottic vision during laryngoscopy was scored according to Cormack and Lehane's classification: Grade I: Whole of the vocal cords visible. Grade II: only posterior commissure visible. Grade III: only epiglottis visible. Grade IV: none of the above visible. Flexo-metallic tubes ranging in size from 6.0 to 7.5 mm were used for intubation. Six point auscultation and end tidal capnography were used to confirm the right placement. Using a cuff pressure manometer, the cuff was inflated to maintain a cuff pressure of 20-25 cm of H₂O. If the patient required more than three tries at laryngoscopy and intubation, he or she was omitted from the study. O₂, N₂O (1:1), and isoflurane were used to maintain anaesthesia. Intermittent vecuronium 1 mg was used to maintain neuromuscular block, which was repeated every half hour. Half an hour after induction, paracetamol 1 g was administered intravenously as supplemental analgesia. Before extubation, a 4 mg injection of ondansetron was administered. At the end, the patient was extubated with the reversal agents neostigmine (.05-.06 mg/kg) and glycopyrrolate (.01mg/kg). As needed, paracetamol 1g and tramadol 100mg were given for postoperative analgesia. POST was evaluated at 2, 4, 6, 8, 12, and 24 hours postoperatively. For severe sore throat (grade III), a tablet of diclofenac 75mg will be administered. Age, ASA status, Mallampatti Score, Cormack and Lehane grading, number of intubation attempts, use of bougie or stellate, and duration of intubation will be noted. Postoperative characteristics such as the occurrence and severity of POST were evaluated at 2, 4, 6, 8, 12, and 24 hours. The number of times rescue therapy was required was recorded.

III. MODELING AND ANALYSIS

1. AGE GROUP

AGE GROUP (YEARS)	No. of cases	Percentage
20-30	30	40%
31-40	11	14.67%
41-50	24	32%
51-60	10	13.33%
Total	75	100.0%

In our study out of 75 cases there were 30 cases in the age group between 20-30years, 11 cases in 31-40 years, 24 cases in 41-50 years, and 10 cases in 51-60 years.

IV. RESULTS AND DISCUSSION

Chart Title

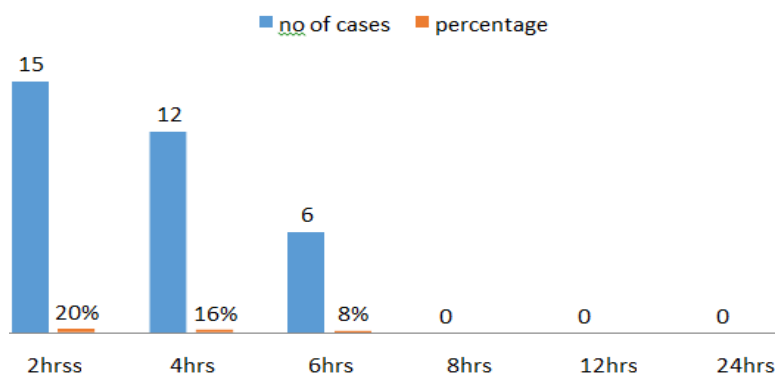


Figure 1: 3D view of building.

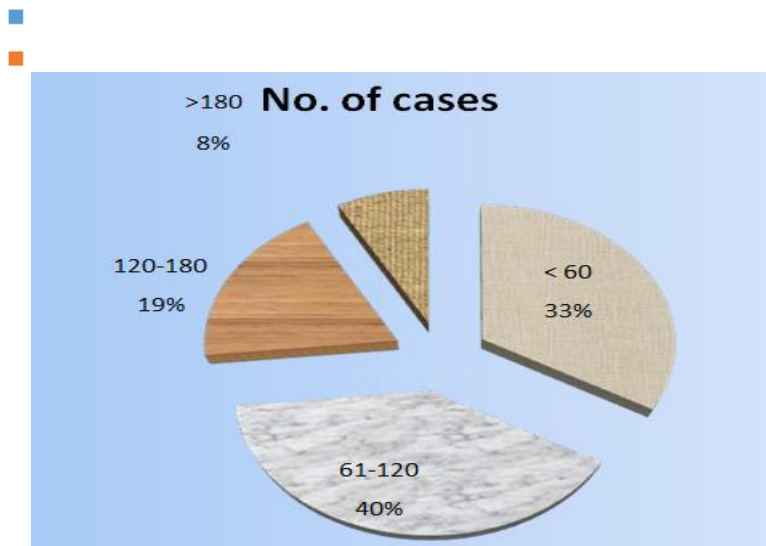
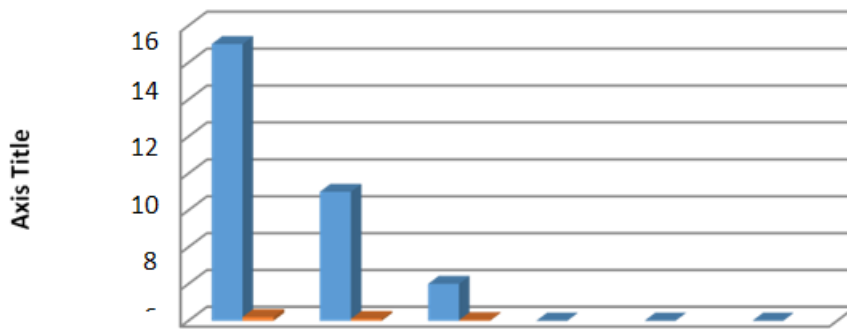
2. POST OPERATIVE HOARSNESS OF VOICE AT DIFFERENT TIMEINTERVALS

TIME	No. of cases	Percentage
2 hrs	15	20%
4 hrs	7	9.33%
6 hrs	2	2.67%
8hrs	0	
12hrs	0	
24hrs	0	

In this study 15 patients complained of hoarsness of voice at 2 hours, 7 patients at 4 hours and 2 patients at 6 hours postoperatively. At 8, 12 and 24 hours postoperatively no patient complained of hoarsness of voice.

0	2 hrs	4 hrs	6 hrs	8 hrs	12hrs	24 hrs
No. of cases	15	7	2	0	0	0
Percentage	20%	9.33%	2.67%			

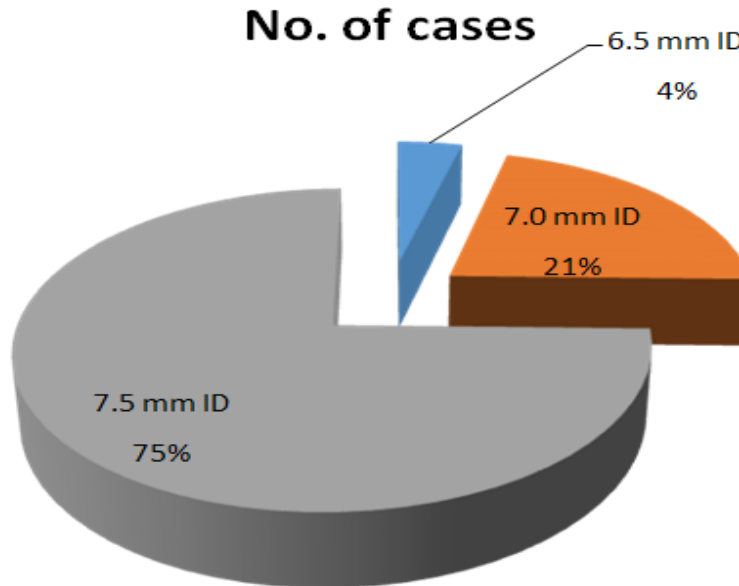
Chart Title



3. SIZE OF TUBE

SIZE OF TUBE	No. of cases	Percentage
6.5 mm ID	3	4%
7.0 mm ID	16	21.33%
7.5 mm ID	56	74.67%
Total	75	100.0%

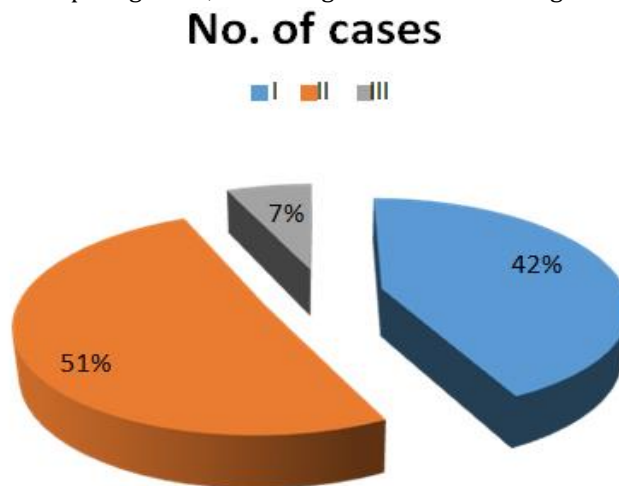
74.67% of the patients were intubated with 7.5 mm ID endotracheal tube whereas 21.33% required 7.0mm ID tube and only 4% were intubated with 6.5mm ID tube.



4. MALLAMPATI GRADE

MALLAMPATI GRADE	No. of cases	Percentage
I	32	42.67%
II	38	50.66%
III	5	6.67%
Total	75	100.0%

In our study 32 cases had Mallampatti grade I, 38 cases grade II and 5 cases grade III.



5. NUMBER OF ATTEMPTS

NUMBER OF ATTEMPTS	No. of cases	Percentage
1	65	86.67%
2	10	13.33%
Total	75	100.0%

86.67% of the cases required only one attempt to intubate whereas 13.33% of cases required two attempt intubate.

No. of cases

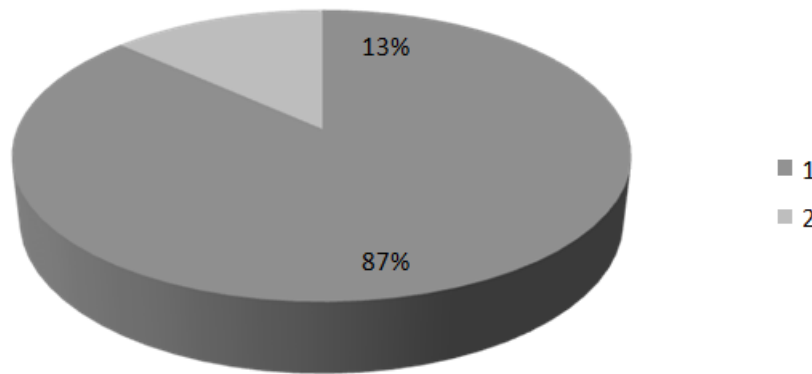


Figure 2: Name of Graph

V. CONCLUSION

More duration of intubation and increased duration of surgery are the risk factors of POST. Hoarsness and cough. The use of Flexometallic endotracheal tube for intubation with C-MAC videolaryngoscope blade can significantly reduce the incidence of POST, cough and hoarsness.

VI. REFERENCES

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