International Journal of Anesthesiology Sciences
Online ISSN: 2664-9276, Print ISSN: 2664-9268
Received: 02-01-2020; Accepted: 03-02-2020; Published: 10-02-2020
www.anesthesiologyjournals.com
Volume 2; Issue 1; 2020; Page No. 05-10

Comparative evaluation of conventional to left molar and right molar laryngoscopy and endotracheal intubation

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DOI: https://doi.org/10.33545/26649268.2020.v2.i1a.8

Abstract
Background: Difficulty in visualizing the glottis may cause difficulty, even failure in endotracheal intubation leading to catastrophes. Difficult laryngoscopy is frequently overcome by using molar approach for laryngoscopy combined with optimal external laryngeal manipulation (OELM). The present study was planned to compare conventional midline approach of laryngoscopy to left molar and right molar approach of laryngoccopy (using Macintosh blade) for endotracheal intubation
Material and Methods: This prospective randomized double blind controlled study was conducted on 120 patients of 18-60 years age, belonging to ASA grade I and II of either sex, posted for elective surgery under general endotracheal anaesthesia. Depending on the approach of laryngoscopy used, the patients were randomly divided into three groups of 40 each into Group M (midline approach), Group L (left molar approach) and Group R (right molar approach). Predictors of difficult intubation (Modified Mallampati grading, Thyromental distance, abnormal Dentition) and their association with unsuccessful intubation, Cormack Lehane grading, attempts of intubation, duration of intubation, success rate of intubation, adjuvant measures needed (stylet, retraction of mouth) for intubation were noted.
Results: Patients having predictors of difficult intubation had significant risk of unsuccessful intubation with midline approach (p=0.01 for MPG III/IV, p=0.04 for TMD <6.5 cm) whereas occurrence of MPG III/IV and TMD <6.5 cm did not increase risk of unsuccessful intubation when molar approaches were used (p>0.05). Presence of tooth lesion significantly increased risk of unsuccessful intubation in all the three groups (p<0.05). OELM improved difficult laryngoscopic view (CL III/IV) to easy laryngoscopic view (CL I/II) in all patients in group L(4/4) and R(6/6)as compared to 50% patients (3/6) in group M. Also, after application of OELM, the Cormark Lehane grading improved from grade II to Grade I significantly in all groups (p<0.0001).
Most of the patients were successfully intubated within 20 seconds in group M (87.50%, n=35) as compared to group L (20%, n=8) and group R (42.5%, n=17). Mean time taken for laryngoscopy and intubation was significantly longer in both molar approaches (right > left) as compared to midline group. Retraction of angle of mouth was used an adjuvant measure during laryngoscopy by significantly higher number of patients in group R (n=38, 95%) as compared to group L (n=2, 5%) and group M (0%) (p <0.0001). Stylet was required as an adjuvant in significantly higher number of patients in group L (n=37, 92.5%) to facilitate successful intubation as compared to group M (n=5, 12.5%) and group R (n=1, 2.5%) (p<0.0001).
Conclusion: We concluded that the success rate of laryngoscopy and intubation via midline, left molar and right molar approach is high and comparable. Molar approaches provide a better laryngeal view as compared to midline laryngoscopy especially in cases predicted to have difficult intubation(MPG II/IV, TMD<6.5). Molar intubations were associated with prolonged intubation time and increased use of stylet and retraction of angle of mouth.

Keywords: molar endotracheal intubation, general anaesthesia

1. Introduction
Laryngoscopy is basic and important step during endotracheal intubation. Difficulty in visualizing the glottis may cause difficulty, even failure in endotracheal intubation. This may lead to catastrophes leading to brain damage or morbidity and mortality to the patient [1].
The cases with anticipated difficult intubation are usually managed along the awake limb of difficult airway algorithm [2]. Unanticipated difficult intubation may be encountered usually after induction, various approaches are used for dealing this scenario. LMA is commonly used to maintain airway and ventilation if intubation is not possible [3]. Use of fiberoptic intubation is an excellent technique in cases of difficult intubation, however its use is precluded by high cost and expertise needed for its use. Moreover its use in emergency condition is hampered due to presence of blood, mucus or secretions [4].
Difficult laryngoscopy is frequently overcome by using molar approach for laryngoscopy combined with optimal external laryngeal manipulation (OELM). The actual mechanism for improved visualization in molar approach is due to reduction of soft tissue compression (central component of line of sight) and lowering of proximal end of line of sight [5, 6]. Left molar approach using a standard macintosh blade with OLEM improves the laryngoscopic view significantly [7, 8] but intubation is found slightly

difficult due to bulge of tongue on blade which can be overcome by use of gum elastic bougie or stylet guided intubation [8]. The right molar approach has the advantage that bulging of tongue over the blade is prevented but hockey stick shaped stylet or assistant's figure is necessary to pull the right corner of the mouth laterally in this approach. Traditionally right molar approach (paraglossal) of laryngoscopy with straight blade has been recommended for difficult intubation [9, 10, 11].

We had planned present study to compare conventional midline approach of laryngoscopy to left molar and right molar approach of laryngoscopy (using Macintosh blade) and endotracheal intubation.

2. Material and Methods

After approval from institutional ethical committee and written informed consent from patients, the present study was carried out in the department of anaesthesiology, RNT Medical College, Udaipur (Rajasthan). This prospective randomized comparative study was performed on 120 patients of 18-60 years age, belonging to ASA grade I and II of either sex, posted for elective surgery under general endotracheal anaesthesia (GETA), having either easy intubation (Modified Mallampati grading (MPG) I/ II, Thyromental distance (TMD) > 6.5 cm and normal teeth) or difficult intubation (MPG III/ IV, TMD < 6.5 cm and bucked teeth). Patients with history of allergy to study drugs, cardiovascular disease, renal disease, respiratory disease, neurological disorders, coagulopathies and endocrinal disorders were excluded from the study.

The patients were randomly divided into three groups of 40 each by computer generated randomization table using sealed envelope technique into Group M (midline approach), Group L (left molar approach) and Group R (right molar approach).

All the patients underwent pre-anaesthetic evaluation day before surgery. All the patients were administered tab Ranitidine 150 mg and tab Alprazolam 0.25 mg at night before surgery and kept nil by mouth from midnight.

On arrival in operation theatre, a wide bore 18 G intravenous peripheral cannula was taken on patient's forearm and ringer lactate infusion was started. Standard monitoring (NIBP, SpO_2 and ECG) were applied. Patients were premedicated with Inj glycopyrrolate 0.2 mg and inj nalbuphine 10 mg intravenously after preoxygenation for 5 min. Anaesthesia was induced with inj Propofol 2 mg/kg and muscle relaxation was achieved with rocuronium 0.6 mg/kg.

Laryngoscopy was carried out after complete muscle relaxation via midline, left molar and right molar approach in Group M, Group L and Group R respectively using Macintosh curved blade no 3 or 4, with optimal head and neck positioning (sniffing) for intubation.

Group M (Conventional Midline Approach): Blade was inserted to the right of the tongue which was displaced to the left as the blade advances to its final position in midline to provide the best glottis view. Best glottis view before and after the application of OELM was recorded followed by tracheal intubation through conventional approach [13].

Group L (Left Molar Approach): Blade was inserted in the left corner of mouth at a point above the left molars. The tip of the blade was directed postero-medially along the groove between the tongue and tonsil until epiglottis and glottis came into sight. Before elevating the epiglottis, the tip of the blade was kept in the midline of the vallecula and the blade was kept above the left molars. The view was framed by the flange, the lingual surface of the blade and the tongue was bulged to the right of the blade and the best glottis view before and after the application of OELM was recorded followed by tracheal intubation [13].

Group R (Right Molar Approach): The blade was inserted from the right corner of the mouth at a point above the right molars. An assistant retracted the right corner of the mouth using his or her finger to make room for glottis view if needed. The best glottis view before and after the application of OELM was recorded followed by tracheal intubation [13].

If intubation was not possible in two attempts with the approach destined to that group then it was defined as unsuccessful intubation in that group. Then senior anaesthesiologist used an alternative approach of laryngoscopy to facilitate tracheal intubation in third attempt. If after three attempts intubation was not succeeded then it was declared as failed intubation and airway was secured using LMA. If any time SpO2 dropped less than 90% or laryngoscopy and intubation time exceeded more than 60 sec, intermittent mask ventilation was done. Predictors of difficult intubation (Modified Mallampati grading, Thyromental distance, abnormal dentition) and their association with unsuccessful intubation, Cormack lehane grading, number of attempts and duration of intubation, success rate of intubation, adjuvant measures needed (stylet, retraction of mouth) for intubation were noted. Any untoward complications like pressor response, arrhythmia, gum or tonsillar fossa bleeding, laryngospasm and bronchospasm were noted and treated accordingly. Preoperative data, intubation data and complications were noted by an anaesthesiologist. Laryngoscopy followed by intubation was done by anaesthesiologist who was not involved in data recording.

Statistical analysis of data was performed with MS Excel, SPSS version 16.0. Qualitative or categorical data were presented as number and percentage and compared with chi square test. Quantitative or continuous variables were compared using student t-test. P value <0.05 was considered significant.

3. Results

All the three groups were comparable regarding to age, weight, sex distribution and type of surgeries and airway parameters (MPG, TMD and tooth lesion). Most of the patients in all the groups were predicted to have easy intubation i.e. had MPG grading I/II and TMD≥6.5. (Table 1)

Table 1: Distribution of patients according to predictors of difficult intubation

Predictors of difficult airway	MMPG or TMD	Group M (n=40)	Group L (n=40)	Group R (n=40)	P value
Modified Mallampati grading (MMPG)					
Easy intubation	Grade I	0	0	0	0.92
	Grade II	36(90%)	35(87.5%)	35(87.5%)	
Difficult intubation	Grade III	4(10%)	5(12.5%)	5(12.5%)	
	Grade IV	0	0	0	
Thyromental Distance (TMD)					
Easy intubation	≥6.5cm	40(100%)	35(87.5%)	36(90%)	0.56
Difficult intubation	<6.5cm	0	5(12.5%)	4(10%)	

3 patients each in group M and R, and 4 patients in group L

had bucked teeth. 2 and 1 patients in group L and R respectively had loose teeth. The incidence of missing teeth in group M, L and R was 2, 1 and 1 respectively. Presence of abnormal dentition (bucked teeth, loose teeth and missing teeth) was statistically comparable among the three groups (p>0.05).

Most of the patients in all three groups had Cormack Lehane Grading I/II (ie easy laryngoscopy) without application of OELM, which was statistically comparable. (P>0.05) (Table 2). OELM improved difficult laryngoscopic view (CL III/IV) to easy laryngoscopic view (CL I/II) in all patients in group L(4/4) and R(6/6) as compared to 50% patients (3/6) in group M. Also, after application of OELM, the Cormack Lehane Grading improved from grade II to Grade I significantly in all groups (p=0.0001). After application of OELM, all patients in group L and R had easy laryngoscopic view (CL grade I/II).

Table 2: Distribution of patients according to Cormack Lehane Grading using Optimal External laryngeal Manipulation (OELM)

Group	CLG	I	II	Total	III	IV	Total	P value Improvement Rate
		Easy			Difficult			
Group M (n=40)	Before OELM	16 (40%)	18(45%)	34 (85%)	5(12.5%)	1(2.5%)	6 (15%)	0.47
	After OELM	34 (85%)	3 (7.5%)	37(92.5%)	3 (7.5%)	0	3(7.5%)	
Group L (n=40	Before OELM	4 (10%)	32(80%)	36 (90%)	4 (10%)	0	4 (10%)	0.12
	After OELM	36 (90%)	4 (10%)	40 (100%)	0	0	0	
Group R (n=40	Before OELM	6 (15%)	28(70%)	34 (85%)	6 (15%)	0	6 (15%)	0.03**
	After OELM	34 (85%)	6 (15%)	40 (100%)	0	0	0	
P value		P<0.0001*						

*Rate of improvement from grade II to I was significant in all groups

**Rate of improvement from grade III/ IV to grade II was significant in group R.

Most of patients in all the three groups were intubated in first attempt with approach destined to that group (Table 3). Successful intubation in allocated approach was done in second attempt by senior anaesthesiologist in 1 (2.5%), 3 (7.5%) and 1 (2.5%) patients in group M, L and R respectively. Incidence of unsuccessful intubation was comparable among all the groups. All these patients were intubated using an alternative approach and there was no failed intubation, requiring LMA for airway management. Three patients in group M who could not be intubated via midline laryngoscopy, were intubated in left molar laryngoscopy. Out of three unsuccessful intubation cases in group L, 2 were intubated by conventional midline approach and 1 was intubated in right molar approach as buck teeth were present in midline so midline laryngoscopy was not tried. In group R, two patients were intubated in left molar approach because of midline and right molar teeth lesion. Overall the approach of laryngoscopy for successful intubation was midline in 32.5% (n=39), left molar in 35% (n=42) and right molar in 32.5% (n=39) patients.

Table 3: Distribution of patients according to success of intubation

Intubation	Group M (n=40)	Group L (n=40)	Group R (n=40)
1. Successful intubation			
a. In 1st attempt	36 (90%)	34 (85%)	37 (92.5%)
b. In 2nd attempt	1 (2.5%)	3 (7.5%)	1 (2.5%)
2. Unsuccessful intubation in allocated approach hence alternative approach by senior anaesthesiologist in 3rd attempt	3 (7.5%) (Left molar)	3 (7.5%) 1. Right molar 2. Midline)	2 (5%) (Left molar)
P Value	0.79 (M/L)	0.51 (M/R)	0.34 (L/R)
3. Failure to intubate	0	0	0

Mean time taken for laryngoscopy and intubation was significantly longer in both molar approaches as compared to midline group although right molar approach required significantly less time compared to left molar approach (Table 4). Most of the patients were successfully intubated within 20 seconds in group M (87.50%, n=35) as compared to group L (20%, n=8) and group R (42.5%, n=17).

Table 4: Distribution of patients according to duration of laryngoscopy and intubation

Time (second)	Group M (n=40)	Group L (n=40)	Group R (n=40)	M/L	M/R	L/R
0-20	35 (87.5%)	8 (20%)	17 (42.5%)	<0.0001	<0.0001	<0.05
21-40	2 (5%)	22 (55%)	21(52.5%)			
41-60	3 (7.5%)	9(22.5%)	2 (5%)			
>60	0	1 (2.5%)	0			
Mean	18.15±10.85	32.98±12.51	24.72±9.28	<0.001	<0.01	<0.05

Retraction of angle of mouth was used an adjuvant measure during laryngoscopy by significantly higher number of patients in group R (n=38, 95%) as compared to group L (n=2, 5%) and group M (0%) which was statistically significant (p <0.0001). Stylet was required as an adjuvant in significantly higher number of patients in group L (n=37, 92.5%) to facilitate successful intubation as compared to group M (n=5, 12.5%) and group R (n=1, 2.5%) (p<0.0001). In our study patients having predictors of difficult intubation i.e. MPG III/IV and TMD <6.5 cm had significant risk of unsuccessful intubation with midline approach (p=0.01 for MPG III/IV and p=0.04 for TMD <6.5 cm) whereas occurrence of MPG III/IV and TMD <6.5 cm did not increase risk of unsuccessful intubation when molar approaches (left molar and right molar) were used (p>0.05) (Table 5). Presence of tooth lesion increased risk of unsuccessful intubation in all the three groups which was statistically significant (p<0.05)

Table 5: Association of predictors of difficult intubation and tooth lesion at laryngoscopy site with unsuccessful intubation

Predictors of intubation		Midline approach			P value	Left Molar approach			P value	Right Molar approach			P value
		n=40	Successful intubation (n=37)	Unsuccessful intubation (n=3)		n=40	Successful intubation (n=37)	Unsuccessful intubation (n=3)		n=40	Successful intubation (n=38	Unsuccessful intubation (n=2)	
MPG I-II		36	35	1	0.01	35	33	2	0.82	35	33	2	0.58
MPG III-IV		4	2	2	0.01	5	4	1	0.07	5	5	0	0.58
TMD ≥6.5cm		35	34	1	0.04	38	35	3	0.67	36	34	2	0.62
TMD <6.5cm		5	3	2	0.04	2	2	0	0.67	4	4	0	0.62
Tooth lesion	No	35	34	1	0.04	38	37	1	0.0002	38	38	2	<0.0001
	Yes	5	3	2		2	0	2		2	0	2	

Adverse effects related to laryngoscopy and intubation were minimal and comparable in three groups. Pressor response was observed in higher number of patients in group L (30%) as compared to group R (17.5%) and group M (12.5%) which was not significant (p=0.13). Tonsillar fossa bleeding was observed in 2 (5%) patients and tooth damage was found in 1(2.5%) patient in group M whereas gum bleeding was observed in 1(2.5%) patient in group L.

4. Discussion

Poor visualization of the glottis is a determining factor in difficult intubation but it is not surprising that the laryngoscopy and tracheal intubation are two distinct processes and to some extent they are independent of each other. Even with good glottis view, intubation may pose difficulty [12]. The causes of difficult laryngoscopy and visualization of glottis are multi factorial. This unexpected difficult laryngoscopy and/or intubation may be encountered even after thorough airway assessment. Although difficult airway cart[4] having fiberoptic bronchoscope is available for difficult airway but in developing countries like India, its availability in all centres is still lacking. Hence some alternative approach of laryngoscopy may prove useful and lifesaving. Thus the observation of Yamamoto *et al* that 'the left molar approach with the commonly used Macintosh blade can take care of many difficult laryngoscopies and intubations' has a huge clinical appeal [13]. The lateral approach has been described under various nomenclatures since it was first reported by Jackson who stressed the importance of keeping the laryngoscope blade to the side of the tongue and called it the 'paraglossal approach.' [14] Magill later modified this approach by keeping the laryngoscope in the right side of the mouth throughout the laryngoscopy and intubation [15]. Bonfils described a similar approach in children with pierre robin syndrome and labelled it as 'homolateral retromolar intubation.' [9] In both the later studies, a straight blade laryngoscope was used to directly lift the epiglottis. The molar laryngoscopy technique warrants practice for its use with confidence when laryngoscopy proves difficult with conventional technique.

In the present study, the incidence of difficult intubation (Cormack Lehane Grade III/IV) was less in all the groups and was statistically comparable. This low incidence was due to the fact that the patients were selected randomly among general population and the incidence of difficult intubation in operating room has been reported to range from 1% to 18% [16].

In the present study, the application of OELM had significantly improved the laryngeal view by grade one in all the three groups. The application of OELM is a proven measure to optimise the laryngeal view [13] It is also called as BURP manoeuvre where an experienced assistant exerts an external, upward and rightward pressure on the thyroid cartilage and is known to improve the Cormack Lehane's laryngoscopic grade by one [17].

Benum of *et al*. [2] reported that application of OELM enhanced the view by one grade in all the patients and by two grades in most of the patients. Sharma *et al*. [12] also observed in their study that OELM application significantly improved the laryngeal view in all the three approaches of laryngoscopy. They found that OELM improved grade II and III by one grade in 86.8%, 91.66% and 65% cases during midline, left molar and right molar approaches of laryngoscopy respectively. Similarly, Raut *et al*. [8] observed that the application of OELM improved CL grading from II to I in 100% (n=45) of patients each in midline and left molar approach and 93.30% (n=42) patients in right molar approach.

In the present study, after application of OELM, the incidence of easy laryngoscopy ie CL grade I/II was increased from 85% to 92.5%, 90% to 100% and 85% to 100% in groups M, L and R respectively. Rate of improvement was statistically significant in right molar approach (p=0.03) as compared to midline (p=0.47) and left molar approach (p=0.12).

Henderson *et al*. [11] applied right paraglossal technique using Miller blade in 18 cases of difficult intubation and observed that grade III/IV views were converted to grade I in all the cases. He also recommended rotation of the head to left for further improvement of view. Yamamoto *et al*[13] found that the incidence of difficult laryngoscopy reduced from 6.5% to 1.97% after OELM in midline approach and left molar approach further reduced it to 0.69% and right molar approach with OELM resulted in 1.773% cases of difficult laryngoscopy. The molar approaches reduce the distance from the patients teeth to larynx and prevents intrusion of maxillary structure into the line of view.[13] In addition midline use of macintosh blade not only displaces the tongue to the left but also compresses the residual volume distally to "pear drop" shape so that epiglottis is displaced posteriorly towards the pharyngeal wall thus obstructing the glottis view. Thus this technique may be fundamentally flawed in presence of absolute and relative maroglossia [18]. The actual mechanism for improved visualization in molar approach is due to reduction of soft tissues compression (central component of line of sight) and lowering of proximal end of line of sight [5, 6].

In the present study, there were no cases of failed intubation requiring insertion of LMA to establish airway. All cases could be intubated in either allocated approach or alternative approach of laryngoscopy. Sharma *et al*. [12] performed three consecutive approaches of laryngoscopy i.e. midline, left and right molar in each of the 100 patients and observed that 100%, 96% and 94% patients were intubated via midline,

left molar and right molar approaches respectively with application of OELM. They also analysed 6 cases of difficult laryngoscopy (CL grade III) separately and found that IDS score was least by midline approach (signifying easy intubation), followed by midline and the right molar approach. There were two failed intubations out of six by the right molar approach. Agrawal *et al*. [19] noted in their study on 5 patients with intraoral swellings that attempt to visualize larynx was unsuccessful with midline approach. However Cormack Lehane Grading improved in all patients with right molar approach using miller blade and intubation was carried out successfully.

We observed in our study that although glottis view was improved using left or right molar approach with OELM but intubation was found to be difficult due to difficulty in aligning the tip of endotracheal tube (ETT) into the glottis opening so it took longer time and more number of attempts as compared to midline approach. This difficulty in aligning the ETT due to bulging of tongue in left molar approach and availability of less space for passage of ETT in right molar approach. Use of adjuvant manoeuvres like OELM, retraction of angle of mouth and use of stylet to facilitate intubation took more time. The deviation of line of view of glottis laterally in molar approaches as well as lesser familiarity with molar approaches increased the time and number of attempts of intubation in molar approaches.

Yamamoto *et al*. [13] noted in their study that left molar approach with OELM improved the glottic view from CL grade III/IV to I/II but the endotracheal tube was passed along midline in 13 out of 20 patients due to limited space available for passage of tube. Raut *et al*[8] observed in their study on 180 patients that more number of second intubation attempts was required in left molar approach (14.99%, n=9) as compared to midline and right molar approach(6.66%, n=4 in each). The time required for laryngoscopy was minimum for midline approach (9.69 sec) followed by left molar approach (11 sec) and right molar approach (11.87%).

In our study, patients having predictors of difficult intubation i.e. MPG III/IV and TMD<6.5cm had a significant risk of unsuccessful intubation when midline approach was used whereas presence of MPG III/IV and TMD<6.5cm did not increase the risk of unsuccessful intubation when molar approaches were used. Thus our study demonstrated the efficacy of molar approaches to achieve successful intubation in patients having predicted difficult intubation. According to Cuvas *et al,* [20] it was not possible to predict the failure of intubation with left molar approach by considering the preoperative risk factors. They found that there was a significant difference in interincisor gap, mandibular hyoid distance, thyromental distance measurements but there was no correlation between difficult intubation predictors and failure of intubation via left molar approach. In molar approaches of laryngoscopy, the blade is inserted along the groove between the tongue and the tonsil at the point above the molars. This approach reduces the distance from patient's teeth to larynx and thus prevents intrusion of maxillary structures which are encountered during conventional midline approach of laryngoscopy and cause reduction of soft tissue compression which may hamper the glottis view during conventional midline approach [5, 6]. Studies by Henderson *et al,* [11] Ken *et al,* [13] Bozdogan *et al.* [7] and Sharma *et al*. [12] have shown that molar approach of laryngoscopy leads to successful intubation where conventional approach fails.

In our study, we observed that tooth lesion at the site of laryngoscopy posed significant difficulty in all the three groups leading to unsuccessful intubation in all the three groups. On changing the laryngoscopic approach away from site of tooth lesion, intubation was done successfully and it avoided dental injury, dislodgement of teeth, trauma to gums, trauma to tonsillar fossa and exaggerated pressor response because of repeated laryngoscopy. Dental injury comes under Grievous injury and medicolegal issues can be avoided if we are familiar with molar approach of laryngoscopy. Gupta *et al*. [21] and Sato *et al*. [22] used left molar approach for visualization of glottis in patients with loose upper incisors and did successful tracheal intubation. Similarly, Poddar *et al*, [23] Sen *et al*. [24] and Yamomota *et al*. [13] found that molar approach is useful in cases of difficult laryngoscopy due to lesions in the path of midline laryngoscopy.

5. Limitations

1. Conventional midline and molar approaches of laryngoscopy were not performed in same patients as it was considered unethical to increase the laryngoscopic time which may cause pressor response and trauma. Hence it cannot be in inferred directly that the molar approaches improved laryngoscopic view.
2. There was a learning curve during use of molar approach which may have some effect on the results.
3. Results of the study shows that molar approaches were beneficial in predicted difficult intubation but this study was not powered to assess the effect of molar approaches on cases having predicted difficult intubation.

6. Conclusion

1. Success rate of laryngoscopy and intubation via midline, left molar and right molar approach is high and comparable.
2. Molar approaches provide a better laryngeal view as compared to midline laryngoscopy especially in cases predicted to have difficult intubation (MPG III/IV, TMD<6.5) though line of view is deviated. Hence there is a need for use of stylet and retraction of angle for successful intubation.
3. Molar intubations were associated with prolonged intubation time which could be circumvented by practice and use of stylet even in first attempt.
4. In presence of abnormal dentition at the site of laryngoscopy, alternative approach can prevent tooth damage and allow easy intubation.

Molar approaches of laryngoscopy should be part of anaesthesiologist's armamentarium and practised in patients with normal airways to increase efficiency of successful intubation.

Funding: *No funding sources*
Conflict of interest: *None declared*

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