

The effect of a dedicated video laryngoscope in the labor and delivery suite on airway management for cesarean deliveries performed under general anesthesia: a single center retrospective study

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Introduction

- One study found that failed airway management for subjects undergoing cesarean delivery to be approximately one in 443¹
- It has been theorized that the use of video laryngoscopy during intubation could reduce airway complications in the obstetric patient.
- This study measured and compared the success rates of first attempt endotracheal intubation for cesarean deliveries before and after the implementation of a dedicated video laryngoscope on the obstetric floor

Methods

- Subjects who had cesarean deliveries under general anesthesia from July 1, 2017 through June 30, 2021 in labor and delivery suite included
- Subjects from July 2019 excluded due to transition period
- Data entered into REDCap by a study investigator

Results

	Prior to permanent video laryngoscope (N=139)	After permanent video laryngoscope (N=188)	P value
Airway secured on first attempt	131 (94.2%)	177 (94.1%)	0.97
Airway technique of first attempt			0.02*
Direct laryngoscopy	85 (61.2%)	91 (48.4%)	
Video laryngoscopy	54 (38.8%)	97 (51.6%)	
Training of operator of first attempt			0.73
Attending	16 (11.5%)	42 (22.3%)	
CA2, CA3, or CRNA	37 (26.6%)	25 (13.3%)	
CA1 or Intern	86 (61.9%)	121 (64.4%)	
Cormack-Lehane grade view of glottis on first attempt			<0.01*
1	114 (83.2%)	116 (63.0%)	
2a	13 (9.5%)	52 (28.3%)	
2b	10 (7.3%)	8 (4.3%)	
3	0	6 (3.3%)	
4	0	2 (1.1%)	

- For both groups, first attempt intubation success rate was approximately 94%
- Video laryngoscopy was used more frequently after July 2019
- Cormack-Lehane glottic views on first attempt worse after dedicated video laryngoscope
- CA1s or interns were the most frequent operators of first attempt intubation throughout the entire four-year period.

Discussion

- Intubation success rates on first attempt were nearly identical before and after implementation of a dedicated video laryngoscope on our labor and delivery unit
- There was clinically and statistically worse recorded glottic views after implementation of dedicated video laryngoscope.
- We were underpowered to detect failures in airway management and none of our 327 subjects had a failed airway
- Our junior residents' inexperience with video laryngoscopy may have led to worse glottic views after implementation of the dedicated video laryngoscope.
- Future large-scale studies are needed to evaluate the effect of video laryngoscopy on failed airways
- Our results are generalizable to institutions that train anesthesia providers



References

1. Kinsella SM, Winton ALS, Mushambi MC, et al. Failed tracheal intubation during obstetric general anaesthesia: a literature review. Int J Obstet Anesth. 2015;24:356-374.