



Impact of COVID-19 pandemic on the use of video laryngoscopy versus direct laryngoscopy for tracheal intubation for cesarean delivery in a tertiary obstetric center: a retrospective analysis



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Introduction

- Airway management in obstetrical patients is often a subject of concern for providers.¹
- Video laryngoscopy is becoming more popular for airway management, especially in difficult airway scenarios.
- The Obstetrics Anesthetists' Association and Difficult Airway Society guideline suggests that a video laryngoscope might be the best device for intubation in the obstetric population.²
- The COVID-19 (SARS-CoV-2) pandemic was declared by the World Health Organization in March 2020.
- Strong recommendation by airway societies that video laryngoscopy should be the method of choice for tracheal intubation during the pandemic, in an effort to reduce aerosolization.³

Methods

- **Study design:** Retrospective, single-centre study in a tertiary obstetric academic hospital. Data collected from patients' charts.
- **Ethical approval:** Mount Sinai Hospital Research Ethics Board.
- **Population:** All obstetric patients submitted to general anesthesia for cesarean delivery.
- **Periods:**
 - *Pre-COVID* → January 2018 to February 2020
 - *Post-COVID* → March 2020 to March 2022
- **Primary outcome:** video and direct laryngoscopy rates pre and post-COVID
- **Secondary outcomes:** Comparison between video and direct laryngoscopy on:
 - First- pass success rates
 - Difficulty of intubation
 - Cormack-Lehane view

Results

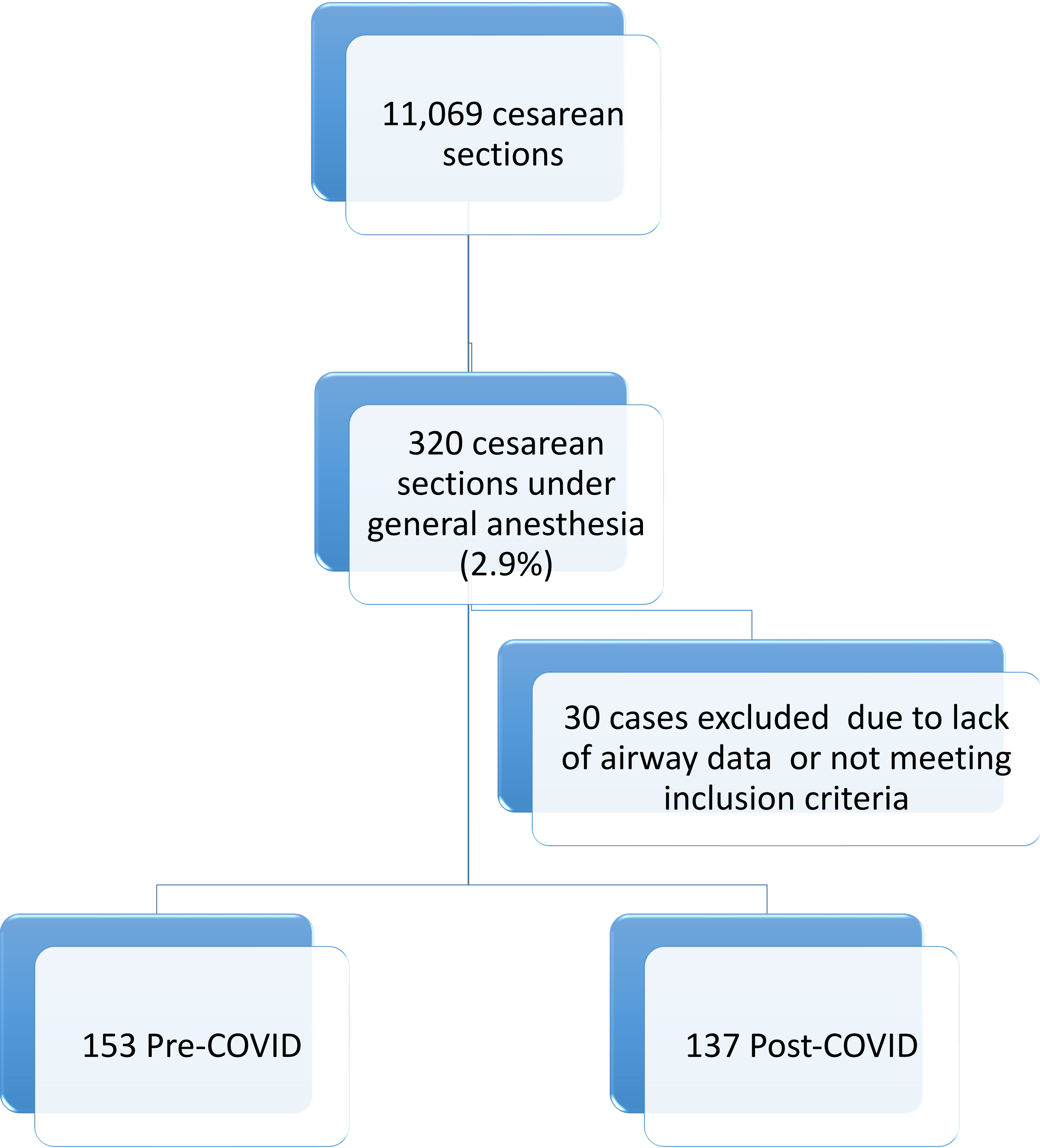


Figure 1. Flow diagram

	Pre COVID	Post COVID	p
n	153	137	
Age	34.0 [30.0, 37.0]	33 [30.0, 37.0]	0.96
Weight	79.0 [70.0, 95.0]	81.80 [69.50, 100.00]	0.42
Height	164.0 [158.0, 170.0]	165.0 [157.0, 170.0]	0.66
BMI	29.43 [25.67, 34.00]	30.15 [26.66, 36.41]	0.132

Table 1. Demographics (median [IQR])

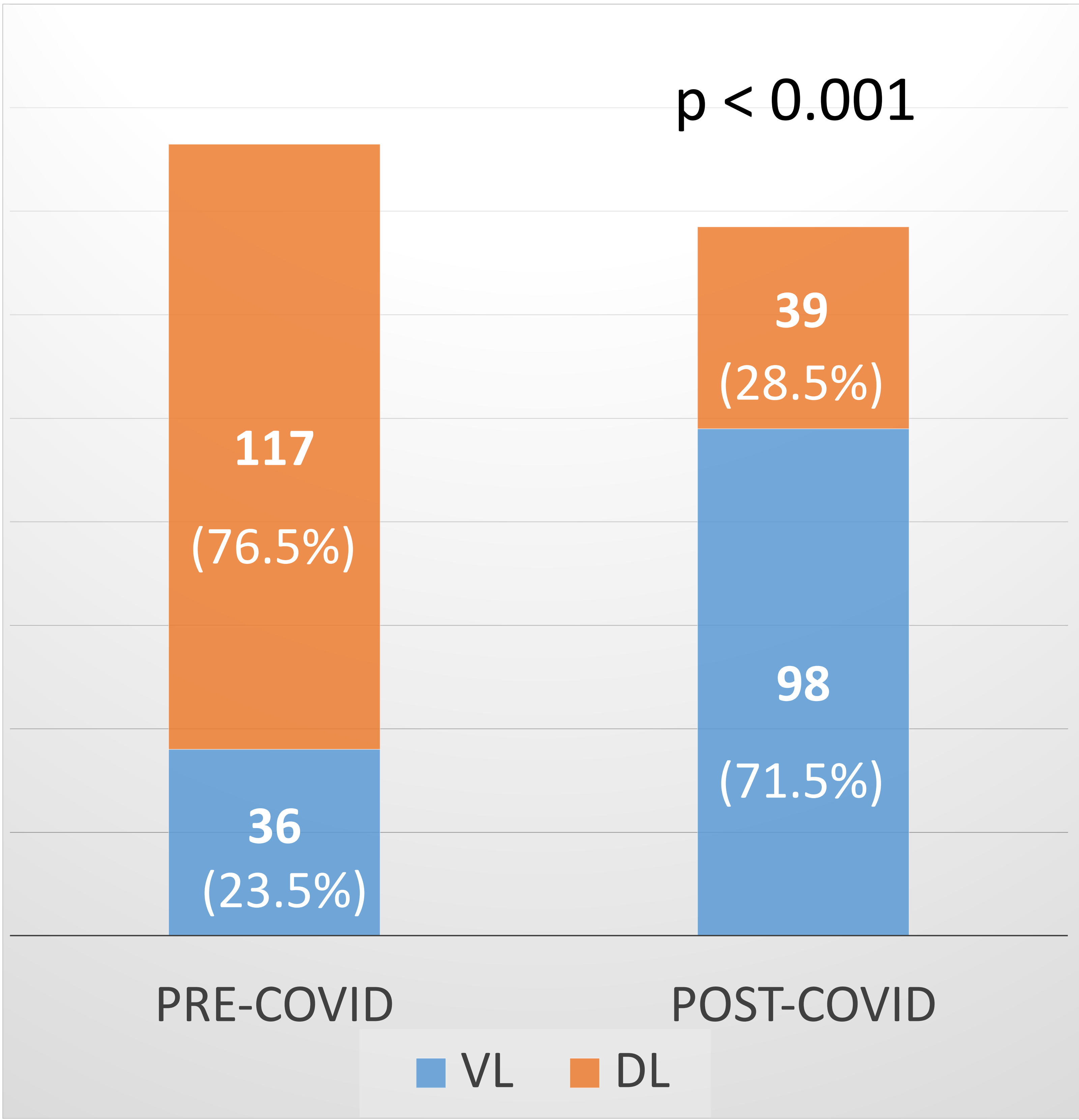


Figure 2. Use of VL vs. DL pre and post-COVID

Results

	VL	DL	p
n	134	156	
First-pass success	133 (99.3%)	154 (98.7%)	1.00
Cormack-Lehane 3/4	0 (0.0%)	5 (3.3%)	0.06
Difficult intubation	4 (3.0%)	0 (100.0%)	0.04

Table 2. Secondary Outcomes

Conclusions

- COVID-19 caused a shift from direct to video laryngoscopy as the first choice for intubation in cesarean sections under general anesthesia in our institution
- Largest comparison between VL and DL in the obstetric population.
- More studies are needed to clarify if one device is superior in effectiveness for intubation on this population.

References

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3- Grudzinski AL, Sun B, Zhang M, Crnic A, Djokhdem AH, Hanna M, Montroy J, Duggan LV, Hamilton GM, Fergusson DA, Boet S, McIsaac DI, Lalu MM. Airway recommendations for perioperative patients during the COVID-19 pandemic: a scoping review. Can J Anaesth. 2022 Feb 2:1–14.