ECRONICON OPEN ACCESS

EC PAEDIATRICS
Research Article

Have We Learned Anything After the COVID Pandemic?

Sandra Galve-Navarro, MD, MSc* and Cristina Muro-Castro, MD

Department of Anesthesiology, Vall d'Hebron Hospital Universitari, Vall d'Hebron Barcelona Hospital Campus, Barcelona, Spain

***Corresponding Author:** Sandra Galve-Navarro, MD, MSc, Department of Anesthesiology, Vall d'Hebron Hospital Universitari, Vall d'Hebron Barcelona Hospital Campus, Barcelona, Spain.

Received: August 21, 2023; **Published:** September 29, 2023

Abstract

The COVID pandemic in 2020 introduced a series of considerations in airway management to minimize anesthesiologists exposure to the virus. Asymptomatic patients shed viruses and are infectious. It might be thought that the attitude of anesthesiologists would have changed when exposed to any undiagnosed pathogen. The objective of this study is to verify if there are differences in airway manipulation between the years 2018 and 2021.

This is a retrospective observational study. All patients under 16 years of age who underwent surgery at Vall d'Hebron University Hospital (Barcelona, Spain) in 2018 and 2021 were included. Means were represented as 95% confidence intervals (CI), categorical variables were represented as percentages. 5522 patients were included, 3435 in 2018 and 2087 in 2021. Following percentages in procedures (2018 vs 2021): Without instrument: 8.24 vs 15.33; Laryngeal mask: 41.33 vs 30.87; Direct laryngoscopy: 42.75 vs 50.65; Video laryngoscope: 1.35 vs 1.75; Fiberoptic bronchoscope: 0.12 vs 0.29; Intubation or tracheostomy upon arrival in the operating room: 6.19 vs 1.07.

Among the data collected, the increase in techniques without instrumentation of the airway (sedation in spontaneous breathing or with a face mask) and the maintenance in the percentages of use of video laryngoscopes stand out. In both cases, the possibility of spreading aerosols with contagious particles (RSV, influenza, SARS-CoV-2...) increases in all pediatric patients.

Keywords: *Airway Management; Respiratory Aerosols and Droplets; Anesthesia, General; Infectious Disease Transmission; Patient-to-Professional*

Introduction

The COVID pandemic in 2020 introduced a series of considerations in airway management to minimize anesthesiologists' exposure to the virus. The recommendations for endotracheal intubation published in Anesthesia and Analgesia [1,2] specify considering the use of Glidescope or similar devices and avoiding the use of fiberoptic bronchoscopy. In the same sense, it guides the Anesthesia Patient Safety Foundation, World Health Organization, CDC and many other health organizations and International Societies. Asymptomatic patients shed viruses and are infectious. Moving the professional's face away from the expelled aerosol droplets reduces the concentration of droplets in direct contact with the mucous membranes. Hall., *et al.* [3] conclude that video laryngoscopy greatly extends the "mouth-to-mouth" distance from the laryngoscopist to the patient compared to direct laryngoscopy and places the laryngoscopist's face above the direct line of sight in the pharynx.

It might be thought that the attitude of anesthesiologists would have changed when exposed to any undiagnosed pathogen. The objective of this study is to verify if there are differences in airway manipulation between the years 2018 and 2021.

Materials and Methods

This is a retrospective observational study. All patients under 16 years of age who underwent surgery at Vall d'Hebron University Hospital (Barcelona, Spain) in 2018 and 2021 were included. Demographic data and data on airway instrumentation (without instrumentation, laryngeal mask, direct laryngoscopy, video laryngoscope) were collected and analyzed, fiberoptic bronchoscope and endotracheal tube or tracheostomy holders upon arrival in the operating room). Means were represented as 95% confidence intervals (CI), categorical variables were represented as percentages.

Results and Analysis

A total of 5522 patients were included, 3435 in 2018 and 2087 in 2021. The mean age was significantly different between the two groups (2018: 6.91 (CI 6.75 - 7.08); 2021: 7.64 (7.44 - 7.84). Following percentages in procedures (2018 vs 2021):

- Without instrument: 8.24 vs 15.33
- Laryngeal mask: 41.33 vs 30.87
- Direct laryngoscopy: 42.75 vs 50.65
- Video laryngoscope: 1.35 vs 1.75
- Fiberoptic bronchoscope: 0.12 vs 0.29
- Intubation or tracheostomy upon arrival in the operating room: 6.19 vs 1.07.

Differences were found in cases without airway instrumentation, in the use of the laryngeal mask, direct laryngoscopy, fiberoptic bronchoscopy, and patients with endotracheal tubes or tracheostomies. On the other hand, the use of the video laryngoscope was not modified.

Conclusion

Among the data collected, the increase in techniques without instrumentation of the airway (sedation in spontaneous breathing or with a face mask) and the maintenance in the percentages of use of video laryngoscopes stand out. In both cases, the possibility of spreading aerosols with contagious particles (RSV, influenza, SARS-CoV-2...) increases in all pediatric patients.

Bibliography

1. Orser BA. "Recommendations for Endotracheal Intubation of COVID-19 Patients". *Anesthesia and Analgesia* 130 (2020): 1109-1110.
2. Matava CT., *et al*. "Pediatric Airway Management in COVID-19 Patients: Consensus Guidelines from the Society for Pediatric Anesthesia's Pediatric Difficult Intubation Collaborative and the Canadian Pediatric Anesthesia Society". *Anesthesia and Analgesia* 131 (2020): 61-73.
3. Hall D., *et al*. "Videolaryngoscopy increases 'mouth-to-mouth' distance compared with direct laryngoscopy" (2020).

Volume 12 Issue 10 October 2023