



The role of interventional pulmonology

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Background

In the COVID-19 era, an increased need for ICU admission, long-term intubation and delayed tracheostomy might lead to an unprecedented increase in airway stenoses, tracheoesophageal fistulae and other central airway complications (CAC).

Methods

In the COVID-19 era, an increased need for ICU admission, long-term intubation and delayed tracheostomy might lead to an unprecedented increase in airway stenoses, tracheoesophageal fistulae and other central airway complications (CAC).

Covid and post-covid cases referred to our department for airway complications during the past 2 years were collected.

Results

25 cases of post-intubation tracheal stenosis and/or tracheoesophageal fistula, 1 case of foreign body aspiration (rhinopharyngeal tube) and 1 case of massive alveolar / airway hemorrhage were included. All patients underwent tracheal intubation and 12 had tracheostomy performed 20±7 days after intubation. The histopathology of the airway lesions revealed no specific findings related with viral tracheitis per se. All patients were managed successfully.

References

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- 25 patients with post-intubation tracheal stenosis. 17 male - 8 female. Mean age 57,5. Main comorbidities were diabetes (20%) and hypertension (33%).
- Prolonged intubation (>20±7 days) and pronation maneuvers were common in the patients with PITS. 12 had tracheostomy.
- Majority of patients had fracture and distortion of the tracheal wall. 16 patients were managed with stent and 6 with surgical resection and anastomosis.
- The histopathology of the resected tracheal specimens didn't reveal specific alterations in comparison to pre-COVID-era PITS cases.

Male, 49 years-old, ex smoker, with a history of hypertension, developed refractory respiratory failure leading to intubation, ICU admission and extracorporeal membrane oxygenation (ECMO) due to COVID-19. Hemorrhagic predisposition related to ECMO led to severe airway bleeding and occlusion of the bronchi with blood clots. Rigid bronchoscopy was performed, and the patency of the airways was restored.



Male, 56-years-old, non-smoker, with a free medical history, had a prolonged ICU stay due to covid-19 pneumonia. After extubation, accidental aspiration of rhinopharyngeal tube occurred, which caused narrowing of the trachea and reintubation. The foreign body was removed with rigid bronchoscopy. After his discharge, he developed recurrent pulmonary infections and complained of cough post-eating, although neurologically healthy. Fiberoptic bronchoscopy revealed a tracheobronchial fistula, and the patient was referred for esophageal stenting.

Conclusions

- We confirm an increased incidence of CAC in patients intubated for COVID 19. It is essential to maintain a high level of suspicion for these complications and include them in the differential diagnoses of stridor in patients recently hospitalized.
- Given the increased ICU admissions due to the COVID-19, rare diseases, such as post-intubation tracheal stenosis, might be much more common the following years.
- It remains a challenge to identify whether this increasing number of airway disorders is merely a result of a higher percentage of intubation or whether SARS-CoV2 can cause direct injury to the tracheal mucosa.