

Acquired Tracheomalacia Requiring Urgent Tracheostomy Exchange in Patients with COVID-19

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Introduction

- Tracheomalacia: softening of tracheal cartilage leading to partial collapse and decreased airflow
- Risk factors contributing to acquired tracheomalacia
 - Prolonged mechanical ventilation
 - Repeated intubations
 - High-dose corticosteroid administration
- COVID-19 patients manifested many risk factors for acquired tracheomalacia
- Development of tracheomalacia can compromise airway in mechanically-ventilated patients with tracheostomy

Aim

- Describe single-center experience of tracheostomy exchange in patients at risk for tracheomalacia

Methods

- Case series of COVID-19 patients consecutively requiring percutaneous tracheostomy
- June 2020 – October 2021
- Primary outcome: need for tracheostomy exchange
- Covariates: time of intubation, time to tracheostomy, tracheostomy size, steroid use, re-intubation

	COVID Patients Receiving Tracheostomy	
	n=45	%
Age, years, mean	55.2	
Sex, female	15	33.3%
BMI, mean	34.4	
Reintubation before trach, n	14	31.1%
Steroid dose prior to trach, mg, decadron equivalents	11.2	
Time to Trach, days, mean	16.4	
Trach type, n		
#8	30	66.7%
#8 XLTC	3	6.7%
#8 XLTCP	8	17.8%
#6	2	4.4%
#6 XLTC	2	4.4%
Time to Trach replacement, days, mean	7.2	
Trach replacement, n	10	22.2%
#8 to #8 XLTC	7	
#8 to #6 XLTC	2	
#8XLTCP to #8XLTC	1	
Survived, n	37	82.2%
Required procedure for tracheal stenosis, n	2	4.4%

Discussion

- Patients with COVID-19 should be considered high-risk for tracheal complications
- Continuous intubation may cause tracheal injury leading to tracheomalacia or tracheomegaly
- Tracheal abnormalities may necessitate early tracheostomy exchange to an extended tracheostomy tube or distally-positioned cuff to facilitate ongoing mechanical ventilation

