

Mini-surgical Percutaneous Dilatational Tracheostomy (msPDT): Our Experience during the COVID-19 Pandemic

Editor

Coronavirus disease 2019 (COVID-19) pandemic led to an unprecedented patient turnover and overuse of the limited resources¹. This resulted in the re-definition of the method-of-choice in surgical procedures².

Tracheostomy is commonly performed in patients requiring long-term mechanical ventilation. The percutaneous dilatational tracheostomy (PDT) is the technique of choice in the elective setting. The difficult identification of anatomical landmarks in patients with morbid obesity or those with a short, thick neck puts this population at increased risk of peri-procedural complications following PDT. Therefore, surgical tracheostomy (ST) is generally considered superior to PDT due to offering a better anatomical visualization³.

In 2015, we introduced the mini-surgical PDT (msPDT) as an alternative to the ST when PDT is contraindicated or difficult to perform⁴. We discontinued the use of bronchoscopy, the indispensable part of PDT techniques. The benefit of bronchoscopy has been debated⁵. It also may increase the risk

of intra-procedural hypoxemia and transmission of COVID-19⁴.

In msPDT, tracheal puncturing occurs upon appearance of tracheal rings after vertical and horizontal retraction of overlying tissues. To prevent a posterior wall laceration, the catheter introducer needle is conducted at a 45 angle. Correct positioning of the needle's tip is confirmed by bubbles formation following aspiration of a pre-filled syringe⁴.

In a large randomized trial, we previously showed that msPDT is superior to the modified PDT and ST in terms of duration and complications².

Being less time-consuming, it may put the practitioners not as much as PDT or ST at the risk of COVID-19.

Employment of msPDT instead of ST obviates the need for sector change from ICU to the operation theatre, which could contribute to COVID-19 propagation.

In addition to patient's safety, the safety of practitioners should also be taken into account in the risk–benefit evaluation of different tracheostomy techniques during viral pandemics.

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