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LETTER TO THE EDITOR

Reply to Consensus document on tracheotomy in patients with COVID 19☆

Respuesta a Documento de consenso de la traqueotomía en pacientes con COVID 19

To the Editor,

We recently read the consensus document published on this journal on tracheostomies performed in patients with COVID-19.[1]

Our own experience tells us that in these patients, lung affectation is associated with a high need for mechanical ventilation (prolonged in most cases). In our series (n = 22) duration extended beyond 20 days and 72% of these patients (a high percentage) had to be tracheostomized, which is consistent with the data reported by other studies.[2]

COVID-19 is the product of respiratory droplet transmission, which is why during these patients' hospital stay in the Intensive Care Unit, caution should be the rule of thumb here because of the high risk of aerosol production in high-risk circumstances such as during intubation, bronchoscopy, and tracheostomy maneuvers.[3,4]

Although it is advisable to wait for a negative polymerase chain reaction test result before performing a tracheostomy, on many occasions, it needs to be performed before running this test when the airway cannot be secured. That is why it is of paramount importance to be extra-cautious using personal protection equipment (masks, goggles, scrubs, and gloves) and all those additional prophylactic measures that could act as a barrier.[2]

One of these measures is the «aerosol box», a methacrylate protection component originally designed to cover the patient's face. It can be accessed with both hands through 2 circular ports to perform orotracheal intubation maneuvers, thus avoiding most of the aerosolization process generated.[5]

To perform tracheostomies we changed the structure of the box by adding an extra lateral port so we could have a direct and complete field of vision during the entire procedure, access the trachea for fixation purposes, facilitate tracheal puncture, and the insertion of guidewires and dilators with the other hand (Fig. 1).

Figure 1 Use of the protective box during a tracheostomy procedure in a patient with COVID-19.

We believe that this component is cheap, easy to make, and should be considered an additional barrier while performing risky procedures with high production of aerosols like tracheostomies in patients with pneumonia due to COVID-19.

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Conflicts of interest

None reported.

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Reply to ''Consensus document on tracheotomy in patients with COVID-19''☆

Respuesta a «Documento de consenso de la traqueotomía en pacientes con COVID-19»

Dear Editor:

We wish to thank the warm welcome to ''Consensus document on tracheostomy in patients with COVID-19''[1] and congratulate the authors on their quest for tools to reduce the risk of health professionals while managing these patients.

We agree that we should be extra-cautious with patients infected with SARS-CoV-2, especially while performing high-risk procedures. Specific recommendations on the use of personal protection equipment (PPE) for every particular clinical situation have been established. The risk of contagion involved in procedures like intubation, tracheostomy or bronchoscopy and the reduced availability of PPE has triggered the design of devices that act as barriers to reduce the risk of contagion.

The so-called ''aerosol box'' was initially designed to intubate patients with COVID-19 in an attempt to reduce the spread of unwanted aerosols.[2] Its use has been controversial ever since with limitations like complexity in cases of difficult airways, limited movements for operators and technicians, difficulties placing or repositioning the device in emergency cases (even damaging the patient), reduced visibility, possibility of cross contamination if the device has not been properly disinfected or risk of contagion during its retrieval.[3] Other barrier devices like plastic screens have been used with greater maneuverability and visualization or suction systems to reduce the viral load and spread of aerosols.

From these experiences different prototypes of devices have been developed. Their ergonomics, shape, size, and type of material have improved. Their initial design has changed and adapted to the actual clinical needs. Also, some of the limitations described above have been solved. The use of more flexible curve-shaped materials has improved visibility and avoided cleaning issues. New access ports have been added that technicians and assistants can use or sealing machines have been introduced to reduce the risk of viral particle spread or systems to increase the stability of the devices.[4]

The use of all these barriers has extended to procedures like tracheostomy (as the authors say) and other experiences.[5] Actually, they improve the safety of one of the most risky and common procedures often performed during these months in patients with COVID-19.

Despite the continuous improvement in the design of these devices, the apparent greater safety and confidence of health professionals should not minimize the precautions that still need to be observed in the use of PPE and other standard protection measures. Therefore, health professionals should be properly trained in the use of these devices. Simulation can be an excellent tool to validate these devices during the training process of health professionals.

This necessary innovation in times of high tension and healthcare system collapse should consolidate in the near future to make sure that these medical devices are regulated, manufactured, assessed, and used according to common quality and safety standards and without new risks. To that end, multidisciplinary teams should provide their clinical experience and technological know-how to the design and manufacture processes of these devices.

Their implementation into the routine clinical practice should be accompanied by clinical results that prove their effectiveness reducing the rates of infection or the quantitative viral loads in PPE and in the environment without

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