

Effective Adaptation of Ventilation Maneuvers in Electroconvulsive Therapy Sessions During the Coronavirus Disease 2019 Pandemic

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The coronavirus disease 2019 pandemic forced the adaption of the electroconvulsive therapy (ECT) technique. Several proposals have been generated to specifically address droplet dispersion during airway management^{1,2} in modified ECT. Some authors recommend avoiding or minimizing hyperventilation during the pandemic, as it is typically performed by manual bag-mask ventilation (BMV),¹ which is an aerosol-generating or droplet dispersion procedure.^{3,4}

In the ECT Unit of the Bellvitge University Hospital, the ECT procedure was adapted by a multidisciplinary team following the available recommendations,^{1,5} local coronavirus disease 2019 guidelines, and current literature. The ventilation procedure was modified to address the reduction of aerosol-generating BMV and isolation of possible droplets. It used a modified ventilation protocol (see video in Supplemental Digital Content, <http://links.lww.com/JECT/A117>, <http://links.lww.com/JECT/A118>) that included the following:

1. Preoxygenation followed by 2-minute voluntary hyperventilation asking patients to hyperventilate to decrease carbon dioxide basal values before anesthetic induction. Both procedures were performed with a single-use standard nasal cannula with supplemental oxygen flow (4 L/min) while wearing a protective surgical facemask.⁶
2. Ventilation and airway manipulation isolation were performed during all of the treatment with the patient asleep using a single-use disposable waterproof plastic cover with a hole to connect the disinfected bag mask and antimicrobial air filter.
3. Energetic BMV manual hyperventilation was avoided after anesthetic induction and mouth manipulation to introduce the Guedel cannula; if possible, we used a mouth guard that allowed ventilation through the guard. Oxygenation³ and manual ventilation

assistance with a tight sealed BMV were maintained under the plastic tent until the patient emerged from anesthesia.

This modified ventilation protocol effectively induced adequate seizures despite avoiding energetic hyperventilation⁷ without eliciting significant side effects. This reinforces the importance of preoxygenation⁸ and the role of voluntary hyperventilation⁹ performed actively by the patient before anesthesia induction to help to maintain a good oxygenation during ECT treatments.

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