

Awake extracorporeal membrane oxygenation patients expanding the horizons

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Awake extracorporeal membrane oxygenation (ECMO) patients—expanding the horizons

We reviewed with interest the article published by Crotti *et al.* (1) on spontaneously breathing patients during veno-venous ECMO (VV ECMO).

In our centre we have had experience of patient with near fatal asthma that the authors had not included in their review. We reviewed our data from January 2014 to October 2017. We had a total of 34 patients with near fatal asthma. We had extubated 8 patients on ECMO. The mean age was 32 years. The mean ECMO run was 4.25 days with range of 3–6 days. The patients were extubated between days 1–3. Three patients were extubated on day 1, 4 on day 2 and 1 on day 3. One patient was agitated and restless on extubation, but improved with titration of sedation. The treating physicians individually assessed the patients for suitability of extubation. The major contraindication for extubation was hyperactive delirium and agitation. The extubated patients were given supplemental oxygen via nasal cannulae and allowed to breathe spontaneously. Remifentanyl and clonidine were the agents of choice to ensure compliance with nursing care and analgesia however not all patients needed this as sometimes regular reassurance was adequate.

VV ECMO has been used as a modality of treatment for asthma (2) refractory to conventional management. Asthma leads to 2–20% of intensive care unit (ICU) admission and the mortality of ventilated patients on ICU is 10–20% (3). In patients with airway hyper reactivity, instrumentation of

the airway may evoke bronchospasm (4) and removal of the stimuli could help in recovery of the underlying pathology. Mechanical ventilation in asthma increases the risk of dynamic hyperinflation thereby provoking pulmonary barotrauma, systemic hypotension and arrhythmias (5). The advantage of awake and cooperative patient on ECMO, minimizes these adverse effects of mechanical ventilation, improves patient's compliance with physiotherapy and rehabilitation. It also minimizes the duration of neuromuscular blockade use (6) that is usually used to improve patient ventilator dyssynchrony. This decreases the risk of critical care associated polyneuromyopathy, and delirium, thereby enhancing patients' and relatives' satisfaction. This approach to management of near fatal asthma with the patient awake and spontaneously breathing is a shift from traditional recommendation (3,6,7). The use of VV ECMO would safely facilitate such management strategies in these cases. We would recommend that asthmatic patient should be individually assessed for their suitability for extubation on VVECMO to improve outcomes and patient satisfaction.

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Footnote

Conflicts of Interest: The authors have no conflicts of interest

to declare.

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