

Category :**Sedation - analgesia**

A112 - Using inhalation volatile sedation for covid19 - easy, effective and safe

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Introduction:

Mechanical ventilation for ARDS COVID19 is cornerstone supportive therapy. While prolonged ventilation is typically needed increasing doses of benzodiazepines, propofol, opioids and NMBAs are administered. Drug clearance is decreased and prolonged awakening, weaning and delirium is seen. Also, in some countries shortage of fentanyl, midazolam and propofol has been reported. Sevofluran has active metabolites and tachyphylaxis, tolerance or dependence hasn't been described. It has predictable and favourable pharmacokinetics with anti-inflammatory effects demonstrated in patients with ARDS. No data is available on using sevoflurane for sedation in COVID-19. We assessed feasibility of sevoflurane sedation in COVID-19 patients requiring mechanical ventilation

Methods:

30 consecutive COVID19 patients transferred to our ICU for advanced ventilatory support and/or rescue therapies were switched from midazolam and/or midazolam+propofol based sedation to sevofluran using Anaconda (Sedana Medical Sweden). Sedation depth was assessed using Richmond Agitation Sedation Scale (RASS) target -4 and Bispectral Index (BIS, Medtronic, US) target BIS 40-50. End expiratory sevoflurane concentration was documented (Vamos, Dräger, Germany). All patients received continuous fentanyl and rocuronium.

Results:

In cohort of 30 invasively ventilated patients 71 % were male with BMI 29±9 and APACHE 17±8. 18 (60%) patients received iNO (20 ppm) (Image 1). Anaconda was placed in inspiratory limb in 3 (10%) patients.

Conclusion:

Sevoflurane via Anaconda provided adequate depth of sedation in all COVID-19 patients. Dose needed for adequate depth of sedation was higher than reported in other patient populations. Less infusion pump manipulation was needed during sevoflurane only sedation. No adverse events occurred during sevoflurane administration. Further research is warranted.

References:

Jerath A, Ferguson ND, Cuthbertson. Inhalational volatile-based sedation for COVID-19 pneumonia and ARDS. IntensiveCareMed doi.org/10.1007/s00134-020-06154-8

Image :

	Day 1	Day 3	P
Midazolam only (N,%)	12 (40%)	0	
Midazolam (mg/h)	48.5±18.1	0	
Fentanyl (microg/h)	158±62	160±30	NS
Propofol only (N,%)	0	0	
Rocuronium (mg/h)	45±7	26±4	<0.005
Propofol (mg/h)	269±49	0	<0.005
No of Infusion pump manipulations/24hrs	18±9	8±3	<0.005
Sevoflurane (end expiratory vol%)	NA	1,6±0.2	
BIS	40	41	NS
Vt (mL/kg IBM)	6.7±0.8	6.2±0.5	NS
Driving Pressure (DP, cmH ₂ O)	14±6	11±4	NS

BIS: bispectral Index