

## 16.4.2 - Nonpharmacological Treatment

## Living after veno-arterial extracorporeal membrane oxygenator support: post-traumatic stress disorder symptoms.

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**INTRODUCTION:** Post-intensive care syndrome includes post-traumatic stress disorder (PTSD), reaching 27%. Veno-arterial extracorporeal membrane oxygenation (VA-ECMO) provides cardiopulmonary support in severe hemodynamic instability situations.

**PURPOSE:** Assess the prevalence of PTSD symptoms in adult survivors from Intensive Cardiac Care Unit (ICCU) admission requiring VA-ECMO support.

### METHODS

Analysis of patients discharged after VA-ECMO in a referral hospital. They were screened through abbreviated Impact of Event Scale-6 (IES-6; 6 items). Its score was calculated as total (0-6 points) and mean (0-1). Respondents are asked to report their situation at the moment of screening (median time from discharge 31.4 [36] months).

**RESULTS:** Out of 135 VA-ECMO implants from 2013 to October 2020, 35.6% survived the ICCU admission.

After 31.4 [36] months follow-up, 40 patients remain alive. 34 patients responded to questionnaire. All patients required sedation and invasive mechanical ventilation. Baseline situation and complications are summarized in Table.

Total and mean score on the IES-6 were  $1.26 \pm 2.11$  and  $0.21 \pm 0.35$  respectively. Up to 29.4% of patients had PTSD symptoms (Figure).

The total and mean score in IES-6 was significantly correlated with the time elapsed since admission ( $R = 0.428$ ,  $p = 0.012$  and  $R = 0.427$ ,  $p = 0.012$  respectively). The patients with altered IES-6 items had passed a longer time since admission in ICCU ( $44 \pm 15$  vs  $30 \pm 20$  months,  $p = 0.034$ ).

**CONCLUSION:** Survivors from admission requiring VA-ECMO support show high prevalence of PTSD symptoms, appearing more frequently when more time has elapsed since admission. Special attention should be paid to psychological symptoms after VA-ECMO.

Table. Implant status and complications

Implant status and complications of VA-ECMO survivors. N = 34			
Age (years) (mean+ SD)	61.3 ± 10	Brigde to (n,%)	29 (85.3%)
Male (n, %)	29 (85.3%)	Recovery	3 (8.8%)
Indication (n,%)		Transplant	0 (0%)
Cardiogenic shock	14 (41.1%)	Ventricular assist device	2 (5.9%)
Refractory cardiac arrest	2 (5.9%)	Elective High-risk PCI	
Electrical storm	6 (17.6%)	Percutaneous implant (n,%)	21 (61.8%)
High-risk percutaneous coronary intervention	2 (5.9%)	Femoro-femoral	28 (82.4%)
Postcardiotomy shock	10 (29.4%)	Intraaortic balloon pump	10 (29.4%)
		Time ECMO support (days)	5.9 ± 3.6
		Time under mechanical ventilation (days)	14.5 ± 22

Implant status and complications of VA-ECMO survivors. N = 34			
pH (mean + SD)	7.3 ± 0.2	Complications (n,%)	10 (29.4%)
lactate (mmol/L) (mean + SD)	6.3 ± 4.6	Vascular (bleeding, ischemia)	11 (32.4%)
Left ventricular ejection fraction (%) (mean + SD)	30.6 ± 16	Bleeding (minor or major)	20 (58.8%)
Right ventricular dysfunction (n,%)	20 (58.8%)	Critical care infections during admission	
Noradrenaline	30 (88.2%)	Ischemic/hemorrhagic stroke	1 (2.9%)
Dobutamine	27 (79.4%)	Renal replacement therapy	9 (26.5%)
Adrenaline	11 (32.4%)	Tracheostomy	10 (29.4%)
Preimplant cardiac arrest (n,%)	19 (55.9%)	Critically illness polyneuropathy	15 (44.1%)
Cardiac arrest duration (min) (n,%)	14 ± 14		
Extracorporeal cardiopulmonary resuscitation (ECPR) (n,%)	3 (8.8%)		

Abstract Figure. IES-6 results.

