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COVID-19 Pandemic – Intra-European Aeromedical Evacuation of Intensive Care Patients
POINT PAPER

A) INTRODUCTION:

The COVID-19 pandemic related major increase of patients with acute respiratory distress syndrome causes an overflow of intensive care units regionally. One option to support the actions taken for disaster relief is to disperse cases to hospitals ready to receive intensive care patients.
Therefore, with consent of the respective Ministries of Defence of the EATC´s partnering nations, AECC can be involved in organising intra-European aeromedical evacuation (AE) for civilian patients. This paper aims on how to deal with serious COVID-19 patients dedicated for AE.

B) PRELIMINARY NOTES CONCERNING SOLDIERS DEPLOYED:

AECC is in charge to aeromedically evacuate deployed military patients of EATC nations and repeats its recommendations to AE of suspected COVID-19 cases in a timely fashion related to the appearance of first symptoms. In addition to that, the routine procedure of AE, as laid down in the EATC AE SOP, applies to evacuate any deployed military COVID-19 patient in severe medical condition. This AE will be organised following a thorough assessment of the patient's medical condition, taking every measure to declare a fit-to-fly status.

C) PRELIMINARY NOTES CONCERNING CIVILIAN PATIENTS:

One main difference on organising intra-European AE for civil patients is the involvement of civil structures not used to work with military ones (and vice versa). The demand to gather the information needed to link all single steps for an interhospital transfer - including AE - is challenging, especially when organising cross-border AE.

To ease the planning process AECC EATC provides a "Patient Movement Request (PMR)" template dedicated for transporting intensive care patients with COVID-19 ARDS. Essential prerequisite for a successful mission preparation is the transmission of all needed information in English language, preferably compiled into the PMR:

- Patient data, including contact data to close relatives
- Releasing hospital (Name, address, person of contact, phone number)
- Corresponding regional rescue coordination centre (Name, address, person of contact, phone number)
- Receiving hospital (Name, address, person of contact, phone number)
- Corresponding regional rescue coordination centre (Name, address, person of contact, phone number)
- Medical status as detailed as possible (minimum required medical data set as listed in the PMR template)

D) AEROMEDICAL RECOMMENDATIONS FOR CIVILIAN COVID-19 PATIENTS:

1. Course of Disease:

COVID-19 patients, who have been intubated and mechanically ventilated for more than 5-7 days, should not be prioritised for aeromedical evacuation. After this time frame the progression of the disease most often shows a high probability to have a serious ARDS and/or another organ failure shortly.

2. Respiratory Function:

Besides the classical pulmonary contraindications for flight (e.g. not drained pneumothorax), the following minimum ventilation parameters have to be observed:

- PaO2 / FiO2 > 150 (with PaO2 in mmHg and FiO2 in decimal number)
- FiO_2 < 70%
- PEEP < 14 mmHg

3. Patient Positioning:

Transporting COVID-19 patients in prone position should be avoided systematically. Not only because the need of ventilation in prone position is mostly linked to a serious ARDS, but it might complicate all stretcher handlings during the transport phase drastically.

4. Concomitant Organ Failure:

Like several pre-existing comorbidities, the onset of organ failure is prognostically linked to a poor outcome. Organ failure has to be considered as difficult to manage during flight, as a source of medical complications en route and a predictive factor for a decreased chance of survival in the days after flight. The following organ failures are consequently considered as not “fit-to-fly” with COVID-19 ARDS patients:

- Acute renal failure with necessity for dialysis
- Inotropic cardiac support with catecholamine (e.g. noradrenaline or dobutamine)
- Cardiac or ventilatory failures supplied by extracorporeal membrane oxygenation
- Signs of disseminated intravascular coagulation
- Acute anaemia < Hb 8 g/dL (5 mmol/L)

E) CONCLUDING REMARK:

Aeromedical evacuation of critical ill COVID-19 patients is a medical, technical and organisational challenge. Often enough, the effects of the stresses of flight on critically ill patients are underestimated. The decision to move these patients requires a proper medical and aeromedical risk assessment. The patient selection has to focus on the potential impact on the patient outcome by the AE itself and the subsequent chance of survival. It´s obvious, that any patient selected for an intra-European hospital-transfer should not only have enough vitality reserve to survive the strenuous trip, but also should finally gain a well-calculated better chance of survival.

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Reference: 1) 20200318_AECC_Point_Paper AE COVID-19
2) 20200408_AECC_PMR_Covid-19_patient_movement_request_v8