CESAR Clinical Trial

The CESAR randomised controlled trial is comparing conventional ventilation methods with ECMO for the treatment of adults with severe acute respiratory failure.

WHO IS ELIGIBLE FOR THE TRIAL?

ALL INTENSIVE CARE CENTRES IN THE UK

Conventional Treatment Centres (CTC) are centres acknowledged by the Critical Care Network leads (where established) to provide an appropriately high standard of conventional care for CESAR eligible patients. Usually these are units which treat ≥350 patients per year, and can provide pressure controlled ventilation and veno-venous haemofiltration.

Patients meeting CESAR entry criteria may be entered into the trial from other hospitals, if these hospitals are prepared to transfer the patient to a designated CTC should the allocation be to conventional management.

PATIENT INCLUSION CRITERIA

- Adult patients aged 18 to 65 years
- Severe, but potentially reversible, respiratory failure
- Murray score ≥3.0 or uncompensated hypercapnoea with a pH <7.2

PATIENT EXCLUSION CRITERIA

- Duration of high pressure and/ or high FiO_2 ventilation >7 days
- Intra-cranial bleeding
- Any other contra-indication to limited heparinisation
- Any contra-indication to continuation of active treatment

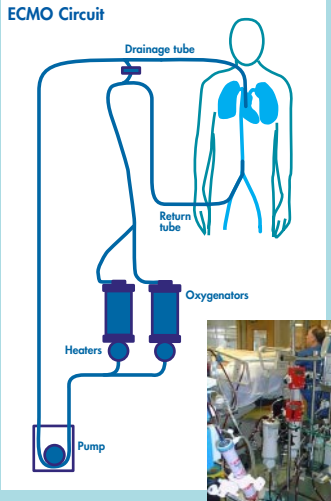
If you think a patient may be eligible for the trial, telephone the Clinical Advisory Team on 0116 287 1471

WHAT ARE THE TREATMENTS?

CONVENTIONAL CARE

Patients allocated to conventional ventilatory support can receive any treatment modality thought appropriate by their intensivist.

However, it is recommended that the low volume ventilation strategy is adopted. Adherence to this strategy is defined for the purposes of CESAR as a plateau pressure <30 cm H_2O (or, if plateau pressure is not measured, the peak inspiratory pressure). This will usually mean a tidal volume of 4–8ml/kg body weight as defined in the low tidal volume ventilation strategy according to the ARDS Network group.



ECMO

ECMO stands for Extra-Corporeal Membrane Oxygenation.

For adults with severe respiratory failure, the ECMO circuit takes over the job of the lungs, giving the lungs a chance to recover, thereby reducing the effects of ventilator lung injury.

The patient's blood travels out through the drainage cannula into the ECMO machine.

In the oxygenators, carbon dioxide is removed, oxygen is added and the blood is warmed to body temperature before being pumped back into the patient through the return cannula.

While on ECMO, patients stay on gentle ventilation.

Patients allocated to ECMO treatment will be transferred by a specialist team to Glenfield Hospital, Leicester. Glenfield is one of the leading ECMO centres in the world, and is the only hospital in the UK that is very experienced in using ECMO for adults.

PRIMARY OUTCOME

Death or severe disability at 6 months

ECMO IS NOT AVAILABLE OUTSIDE THE TRIAL

All transfer costs to, and clinical costs in Glenfield Hospital will be met by the National Specialist Commissioning Advisory Group (NSCAG)

Contact

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