

Title: Effects of elevated mean arterial pressure in cardiac arrest patients with reduced LVEF: An ancillary pre-planned study

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Objectives: Elucidate the effect of an elevated mean arterial pressure (MAP) in cardiac arrest patients with reduced LVEF regarding mortality and neurologic outcome

Hypothesis: Use of an elevated mean arterial pressure in cardiac arrest patients with post-resuscitation shock is safe and potentially leads to improved neurologic outcomes.

Main Outcomes: Primary Endpoints: 30-d Mortality and 6 months neurologic outcome (mRS)

Population: Patients randomized to STEPCARE with an (a) echocardiography performed during the first 24 hours and (b) a reduced LVEF <55%.

Design/Statistics: Generalized linear mixed-effect interaction analysis between MAP randomization group and LVEF-group. Potentially, matched, weighted or G-Estimated adjustment of the study population at randomization.

Additional Variables to be included into Database (same as for the inotropic therapy in cardiac arrest patients with post-resuscitation shock sub-study):

- **Hourly Observations (at 0, 4, 8, 12, 16, 20, 24, 28, 32, 36, 40 hours):**
 - RASS and Drugs -> (We would take the Vasoactive Drugs out of this Section and create a dedicated one)
 - Vasoactive Management
 - Noradrenaline Dose [mcg/kg/min] [mcg/min] [Not used]
 - Vasopressin Dose [IE/min] [Not used]
 - Adrenaline Dose [mcg/kg/min] [mcg/min] [Not used] -> **Instead of the Question Adrenaline Infusion Yes/No**
 - Dobutamine Dose [mcg/kg/min] [mcg/min] [Not used] -> **Instead of the Question Dobutamine Infusion Yes/No**
 - Milrinone Dose [mcg/kg/min] [mcg/min] [Not used]
 - Levosimendan Dose [mcg/kg/min] [mcg/min] [Not used]
 - Use of Methylene Blue [yes] [no]
 - Use of Corticosteroids for Shock Reversal [yes] [no]
 - Fluid Management

- Infused crystalloids for a plasma expanding/ resuscitation purpose over the last 4 hours [ml]
 - Infused colloids for a plasma expanding/ resuscitation purpose over the last 4 hours [ml]
- **Hourly Observations (at 48, 56 hours):**
 - RASS and Drugs -> (We would take the Vasoactive Drugs out of this Section and create a dedicated one)
 - Vasoactive Management
 - Noradrenaline Dose [mcg/kg/min] [mcg/min] [Not used]
 - Vasopressin Dose [IE/min] [Not used]
 - Adrenaline Dose [mcg/kg/min] [mcg/min] [Not used] -> **Instead of the Question Adrenaline Infusion Yes/No**
 - Dobutamine Dose [mcg/kg/min] [mcg/min] [Not used] -> **Instead of the Question Dobutamine Infusion Yes/No**
 - Milrinone Dose [mcg/kg/min] [mcg/min] [Not used]
 - Levosimendan Dose [mcg/kg/min] [mcg/min] [Not used]
 - Use of Methylene Blue [yes] [no]
 - Use of Corticosteroids for Shock Reversal [yes] [no]
 - Fluid Management
 - Infused crystalloids for a plasma expanding/ resuscitation purpose over the last 8 hours [ml]
 - Infused colloids for a plasma expanding/ resuscitation purpose over the last 8 hours [ml]
- **Hourly Observations (72, 96, 120 hours):**
 - RASS and Drugs -> (We would take the Vasoactive Drugs out of this Section and create a dedicated one)
 - Vasoactive Management
 - Noradrenaline Dose [mcg/kg/min] [mcg/min] [Not used]
 - Vasopressin Dose [IE/min] [Not used]
 - Adrenaline Dose [mcg/kg/min] [mcg/min] [Not used] -> **Instead of the Question Adrenaline Infusion Yes/No**
 - Dobutamine Dose [mcg/kg/min] [mcg/min] [Not used] -> **Instead of the Question Dobutamine Infusion Yes/No**
 - Milrinone Dose [mcg/kg/min] [mcg/min] [Not used]
 - Levosimendan Dose [mcg/kg/min] [mcg/min] [Not used]
 - Use of Methylene Blue [yes] [no]
 - Use of Corticosteroids for Shock Reversal [yes] [no]
 - Fluid Management
 - Infused crystalloids for a plasma expanding/ resuscitation purpose over the last 24 hours [ml]
 - Infused colloids for a plasma expanding/ resuscitation purpose over the last 24 hours [ml]