the study group. In the sham-control group, the level of laboratory markers of ED was not significantly changed. Significant dynamics on the level of von Willebrand factor, tissue plasminogen activator have been reported.

Conclusions: ECMO is an effective non-invasive treatment out-patient with significant antiangiogenic effect. EEEP improves endothelial function with activation of antithrombogenic activity of vessel wall.

CARDIOPULMONARY RESUSCITATION

P4021 | BEDSIDE
Acute coronary syndrome with ST-segment elevation (STEMI): “lives saved” before hospital


Purpose: STEMI may be complicated by cardiac arrest (CA) often by ventricular fibrillation. The risk of AC justified the creation of the Cardiologic Intensive Care Units few decades ago. The impact of the French pre-hospital medical management of patients suffering from STEMI on AC outcome remains unknown. Our objective is to study outcome of victims of AC among patients managed by a physician in pre-hospital setting (by SAMU Mobile Intensive Care Unit) for STEMI.

Methods: Data are obtained from the prospective registry that lists all STEMI managed by eight SAMU of Paris area (11 millions inhabitants). Patients requiring cardiopulmonary resuscitation were specifically studied. Primary endpoint, “lives saved”, was defined as prehospital and hospital survival. Quantitative variables were studied on average (confidence interval) and qualitative variables were studied in percent (confidence interval).

Results: From 2002 to 2011, 16,346 STEMI managed by French SAMU emergency physician in prehospital settings were included in the registry. 986 (6%) AC complicating STEMI were reported. 760 (79%) occurred in men. The overall average age was 59 years (58-60). Survival to hospital arrival was 90% (88-92). Discharge survival rate was 63% (60-66). The evolution of survival regarding time is reported in the figure 1.

P4020 | BEDSIDE
Extracorporeal life support in patients with in-hospital cardiac arrest


Background: Cardiopulmonary resuscitation (CPR) is associated with low success rates and high variability in outcomes. Extracorporeal life support (ECLS) systems provide sufficient perfusion of vital organs during treatment of the cardiac arrest (CA) cause. The routine use of ECLS is still under investigation. This tool is aimed to identify predictors of mortality in patients with in-hospital cardiac arrest (IHCA) undergoing ECLS treatment.

Methods: We retrospectively studied the characteristics and clinical outcomes of consecutive IHCA patients with IHCA and veno-arterial ECLS treatment during in-hospital cardiac arrest (IHCA) treated between January 2009 and December 2012. Left ventricular ejection fraction (LVEF) and laboratory measurements were analysed. LVEF at baseline was taken from the medical report before CA and was further evaluated after ECLS implantation and then every 24 h during and after successful weaning from ECLS. Survival was determined from time of cardiac arrest to 30 days.

Results: The 30-day survival rate was 31.3% (15 of 48 patients). Baseline characteristics, initial laboratory measurements, baseline LVEF as well as LVEF after ECLS treatment were not significantly different between survivors and non-survivors. There was no difference regarding median CPR duration (survivors 40.5 min [IQR 18.8-51.5] vs. non-survivors 31.0 min [IQR 20.0-48.0]; P=0.80) and duration of ECLS system implantation time (survivors 21.0 min [IQR 10.0-29.5] vs. non-survivors 15.0 min [IQR 9.5-22.5]; P=0.39). The interval between CA and start of ECLS system set up did not show a significant difference among the groups (survivors 21.5 min [IQR 10.0-32.3] vs. non-survivor 17.5 min [IQR 5.0-30.0]; P=0.56). ECLS treatment duration was not significantly different between the two groups (survivors: 69.0 hours [IQR 21.0-178.0] vs. non-survivors: 39.0 hours [IQR 5.0-129.0]; P=0.24).

Conclusion: In prolonged IHCA with failing conventional measures rapid initiation of an adequate organ perfusion by means of ECLS may help to improve the outcome.

P4022 | BEDSIDE
Acute coronary syndrome with ST-segment elevation (STEMI): No patient over the age of 75 years survived.


Acute coronary syndrome with STEMI may be complicated by cardiac arrest (CA) often by ventricular fibrillation. Frequently the circulatory support therapy in these high-risk patients represents the last chance to survive.

P4023 | BEDSIDE
Extracorporeal membrane oxygenation in refractory cardiogenic shock - the Leipzig ECMO registry

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Purpose: With mortality rates approaching 50%, prognosis of cardiogenic shock remains poor. According to current guidelines of the European Society of Cardiology, implantation of left ventricular assist devices such as extracorporeal membrane oxygenation (ECMO) may be considered to achieve hemodynamic stability in patients with refractory cardiogenic shock. However, data on clinical outcome in patients treated with ECMO in clinical routine are scarce. Here we report the in-hospital outcome and predictors for mortality in patients undergoing ECMO implantation due to refractory cardiogenic shock in a high volume tertiary care centre.

Methods: Between 2008 and 2012, 85 patients with refractory cardiogenic shock underwent femoral percutaneous arteriovenous ECMO implantation performed by interventional cardiologists. A detailed set of clinical, therapeutic and laboratory parameters was assessed in all patients. Survival at hospital discharge was surveyed and independent predictors for mortality were identified.

Results: Mean age was 60.6±14.4 years (range 23-84), 76.4% of all patients (n=65) were male and mean left ventricular ejection fraction was 28±17% (range 5-55). The majority of all patients underwent cardiopulmonary resuscitation prior to ECMO implantation (n=48, 56.4%). Indications for ECMO were cardiogenic shock complicated by acute coronary syndrome (n=64, 76.5%), acute non-ischemic heart failure (n=19, 22.4%), deterioration of valvular heart disease (n=9, 10.5%) and interventional complications during percutaneous coronary intervention (n=3, 3.5%). Mean ECMO support lasted 7.2±6.8 days (range 1-54). Despite initial successful ECMO weaning in 48 patients (56.4%), in-hospital mortality was 70.5% as only 25 patients were alive at discharge. Finally, age was identified as the only independent predictor for mortality (HR 1.04, 95% CI 1.01-1.08, p=0.02).

No patient over the age of 75 years survived.
Conclusion: Despite ECMO support, in-hospital mortality of patients with cardiogenic shock refractory to standard treatment remains high. However, especially in younger patients ECMO is a therapeutic option in this otherwise futile situation.

P4028 | BENCH
Pharmacologically induced hypothermia with cannabinoid receptor agonist WIN55,212-2 improves outcome compared to mild therapeutic hypothermia after cardiac arrest
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Purpose: To compare the effect of cannabinoid receptor agonist WIN55,212-2 with mild hypothermia and normothermic control on post resuscitation outcome in a rat model of cardiac arrest.

Methods: Ventricular fibrillation (VF) was induced and untreated for 10 min in adult male Sprague-Dawley rats (400-450 g). Defibrillation was attempted and resuscitated animals were randomized to three groups of ten: (a) normothermia; (b) mild therapeutic hypothermia (32°C) and (c) normothermia with WIN55,212-2 intravenous infusion (1 mg/kg/h). Cooling to 32°C and drug infusion were started at the beginning of return of spontaneous circulation and lasted for the 6 hours. The functional cardiac and neurological outcome, activated caspase-3 immunoactivity, TUNEL and cold-inducible RNA-binding protein RBM3 were assessed.

Results: WIN55,212-2 administration produced pharmacologic hypothermia (32-34°C) and improved myocardial systolic and diastolic functions. Neurological deficit scores and 24-hour survival were significantly better in animals treated with WIN55,212-2 than mild therapeutic hypothermia. RNM3 expression was 5-fold after WIN55,212-2 and 3-fold after mild therapeutic hypothermia. Cardiomypocyte apoptotic index (TUNEL) and neuronal activated caspase-3 immunoreactivity were reduced (<0.01). Cardiomypocyte apoptotic index (TUNEL) and neuronal activated caspase-3 immunoreactivity were reduced (<0.01) after WIN55,212-2 administration compared to both hypothermia and normothermia.

Conclusions: Pharmacologically induced hypothermia with WIN55,212-2 induced after restoration of spontaneous circulation improved postresuscitation myocardial and neurological functions, and survival than mild therapeutic hypothermia after cardiac arrest.

P4029 | BENCH
The prognostic after PCI with mechanical cardiac support systems for the shockstate of acute myocardial infarction
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Background: The clinical outcomes of patients with shock AMI undergoing Percutaneous Cardiopulmonary Support (PCPS) or Intra-aortic Balloon Pumping (IABP) remain unclear.

Method: From January 2007 to September 2011, we experienced 26 cases of AMI requiring emergency PCPS and IABP (PCPS group) and 92 cases of AMI requiring only IABP (IABP group). We compared the PCPS group and the IABP group using clinical background, lesion background, and one year mortality rate. Result: There was not a significant amount difference between the two groups.

Kaplan-Meier curves in both groups