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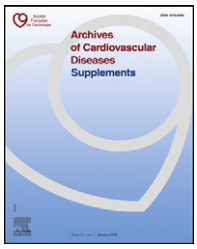

012 — Emergency care and intensive cardiac care

JE19-247

Percutaneous extracorporeal life support in the catheterization laboratory for refractory cardiac arrest in a center without on-site cardiovascular surgery

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Background Cardiac arrest (CA) without return of spontaneous circulation can be treated with veno-arterial extracorporeal membrane oxygenator (vaECMO) as last resort life-saving therapy, implemented by surgical or percutaneous technique. Since surgeons are not always available for such procedures, we performed a study, assessing feasibility and time for vaECMO percutaneous cannulation in the catheterization laboratory in patients with refractory CA.
Methods Single-centre retrospective study in a University hospital in Paris without on-site cardiovascular surgery including patients aged > 18 receiving vaECMO for out- or in-hospital refractory CA (defined as > 15 minutes of arrest despite advanced life support) between 2010 and 2016. Cannulation was performed in the catheterization laboratory by trained interventional cardiologists. Cannulation time in the first study period using anatomic landmarks vessel puncture and conventional wires was compared with the second period cannulation time, using ultrasound guidance and stiff wires.
Results Forty-six patients were included, age 56 (49—62), 34 in the first period. Shockable initial rhythm occurred in 29 (63%) patients, 26 (57%) had acute myocardial infarction. Out-of-hospital refractory CA occurred in 27 (59%) cases. Time from out-of-hospital refractory CA to admission was 100 (80—118) minutes. Cannulation was successful in 42 (91%) patients. Cannulation time was 14 (10—21) minutes overall, 17 (12—26) in the first period and 8 (6—12) minutes in the second period ($P = 0.0005$). Three patients survived, overall survival to discharge was 9%.
Conclusion In patients receiving vaECMO for refractory CA, rapid percutaneous cannulation is feasible in the catheterization laboratory using ultrasound guidance and stiff wires in a centre without on-site vascular surgery. Cannulation time was shorter using ultrasound guidance and stiff wires.
Disclosure of interest The authors declare that they have no competing interest.

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JE19-290

More than 50% of non-healing at one year in ''infarct-like'' acute myocarditis evaluated by Cardiac Magnetic Resonance

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Background Cardiac Magnetic Resonance (CMR) has emerged as a reference tool for the non-invasive diagnosis of myocarditis but its role in follow-up (FU) after the acute event is unknown. We aimed to assess the evolution of CMR parameters between the acute phase of infarct-like myocarditis and 12 months thereafter, and to identify the predictive factors of persistent myocarditis at one year and the long-term prognosis of this infarct-like form.
Methods All patients with infarct-like acute myocarditis confirmed by CMR (with typical non-ischemic late gadolinium enhancement (LGE)) were included from April 2012 to January 2017 in this prospective single-center study at Dijon University Hospital. CMR was performed within 7 days following symptom onset, at 3 months and one year after the acute event. One-year FU included ECG, a cardiac stress test, Holter recording, biological assessments, medical history and a quality of life questionnaire. Patients were classified according to the presence or absence of complete healing at one year, based on the CMR evaluation.
Results A total of 85 patients were included. At one year, 44 patients (52%) exhibited persistent myocarditis on CMR. Multivariate analysis showed that high peak troponin at the acute phase (OR 8.2, 95%CI 1.63—41.20, $P = 0.011$) and the initial extent of LGE (OR 1.1, 95%CI 1.02—1.23, $P = 0.019$) were independent predictors of persistent myocarditis at one year. No patients experienced major adverse cardiac events (cardiac death or serious rhythm disorders). Moreover, patients with persistent myocarditis were more likely than patients with complete recovery to have premature ventricular contractions during the cardiac stress test (31% versus 6%, $P = 0.006$).
Conclusion Less than 50% of patients with infarct-like acute myocarditis showed complete healing at one year. Although no MACE

were found, these results thus highlight the importance of maintaining long-term FU in patients with infarct-like myocarditis.
Disclosure of interest The authors declare that they have no competing interest.

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JE19-297

Analgesia with nitrous oxide/oxygen and acetaminophen compared to morphine analgesia in patients with acute myocardial infarction: Results from the SCADOL II clinical trial

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Background The safety of morphine use has been questioned in the management of ST Elevation Myocardial Infarction (STEMI). Are there other analgesics that are at least as effective without adverse effects?
Purpose Evaluate the non-inferiority of nitrous oxide/oxygen plus acetaminophen versus morphine in pre-hospital patients with STEMI.
Method Multi-center, randomized, non-inferiority cluster study. Thirty-eight mobile intensive care unit centres were randomized. Inclusion criteria: patients with STEMI and pain intensity score ≥ 4 on the numerical rating scale (NRS). Outcome: proportion of patient with NRS ≤ 3, 30 minutes after starting analgesia without adding morphine in the nitrous oxide/oxygen group. Expected or unexpected events were measured at 30 minutes and 1 month. Estimated number of subjects: 684. Per protocol (PP) and intention to treat (ITT) statistical analyses were planned. A non-inferiority margin was specified as an absolute difference of -10% in proportions. The cluster design of the trial was taken into account through generalised estimating equations.
Results A total of 684 patients were included in ITT analysis and 644 in PP analysis. Pain relief was obtained in 73.6% patients in the morphine group versus 51.7% patients in the nitrous oxide/oxygen group in the PP analysis. The absolute risk difference was -21.7% (95% CI -29.6 to -13.8) and was below the non-inferiority margin of -10%. The incidence of expected and serious adverse events were 10.2% and 3.5% respectively in the morphine group versus 13.2% and 6.2% in the nitrous oxide/oxygen group.
Conclusion Oxide/oxygen plus acetaminophen is inferior to morphine analgesia in patients with STEMI. Adverse effects were not different between the groups.
Disclosure of interest Consulting fees/honoraria roches diagnostic, Astrazeneca, Sanofi, Daiichi.

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JE19-305

Extracorporeal membrane oxygenation in patients with pulmonary embolism

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Background The role of veno-arterial extracorporeal membrane oxygenation (ECMO) remains ill defined in patients with high-risk pulmonary embolism (PE). We investigated the outcomes in patients with high-risk PE undergoing ECMO according to the initial therapeutic strategy.
Methods Patients from 9 centres with high-risk PE undergoing ECMO for cardiac arrest or persistent shock were included. We compared patients according to treatment strategy (systemic thrombolysis, surgical embolectomy, or no reperfusion therapy). The primary outcome was all-cause 30-day mortality. Secondary outcomes were successful weaning from ECMO and major bleeding.
Results From January 2014 to December 2015, 52 patients (mean age 47.6 years) underwent ECMO for refractory cardiogenic shock ($n=13$, 25%) and cardiac arrest ($n=39$, 75%), of whom 18 (46%) had ECMO initiated during cardiopulmonary resuscitation. Overall 30-day mortality was 61.5% (32/52): 76.5% (13/17) in patients treated with fibrinolysis, 29.4% (5/17) in patients treated with surgical embolectomy, and 77.8% (14/18) in patients who received ECMO alone ($P=0.004$). Nineteen (36.5%) patients were successfully weaned from ECMO (5/17 (29.4%) in patients with fibrinolysis; 11/17 (64.7%) in patients with surgical embolectomy, 3/18 (17.7%) in patients with ECMO alone, $P=0.009$). Twenty patients (38.5%) had a major bleeding event in-hospital; without significant difference across groups.
Conclusion Mortality is high in PE patients with ECMO, especially in those undergoing fibrinolysis and in those with no reperfusion. Life-support therapy with ECMO should not be considered as a stand-alone treatment strategy in high risk PE patients, but shows promise as a complement to surgical embolectomy.
Disclosure of interest The authors declare that they have no competing interest.

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