3724 | BENCH
Transapical Left Ventricular Vent (TLVV) during veno-arterial ECMO support: a bridge to solution in acute cardiogenic shock
M. Allamani, P. Centolani, M. La Torre, M. Boffini, D. Ricci, M. Ribezeo, A. Barontini, E. Simonato, M. Rinaldi. Citta della Salute e della Scienza Turin, Turin, Italy

Introduction: One of the main limitations of Veno-Arterial ECMO (VA-ECMO) support is the inappropriate unloading of the Left Ventricle (LV). The increased risk of end organ failure and edema and impair LV function reduces the possibility of a recovery or the feasibility of other definitive treatments such as permanent LVAD implantation or emergency heart transplantation. The solution proposed by our center is the surgical implantation of a transapical LV vent (TLVV) through a mini-invasive approach. TLVV reduces significantly the pulmonary edema and it gave the chance to convert VA-ECMO circuit to a short-term LVAD as a bridge to solution.

Methods: From January 2010 to June 2012, 16 consecutive pediatric and adult patients supported by peripheral AV ECMO for acute profound cardiogenic shock underwent TLVV implantation. Cannulation was done in the ICU through a minithoracotomy with the seldinger technique using an arterial high-flow multi-perforated cannula. TLVV was subsequently connected to the venous inflow line of the AV ECMO. The switch from AV ECMO to short term LVAD has been done in two stages: the weaning from the right circulation support (intermediate stage: A-A ECMO) and the subsequent weaning from the oxygenator.

Results: In hospital mortality was 0%. In 12 patients (75,0%) pulmonary function significantly improved after implanting TLUV and the VA ECMO circuit was simplified to a short term LVAD through an intermediate stage of A-A ECMO in order to evaluate the right ventricular and the pulmonary function in two different times. Ten patients (62,5%) were successfully bridged to a definitive treatment: in 3 patients, permanent LVAD implantation in 2 patients and bridge to recovery in 5 patients. In hospital survival in patients arrived to these solutions was 8/10 (80,0%).

Conclusions: In our series the double drenaage both of the right and the left side of the heart improved pulmonary function and it gave the possibility to switch from the VA ECMO to a short-term LVAD in the majority of cases. After clinical stabilization of patients it was possible to access to a definitive treatment. We think that in the setting of an VA ECMO, TLVV implantation is useful in order to identify the best candidate for permanent LVAD, heart transplantation or recovery reducing significantly the risk of unsuccesses.

STATE OF THE ART – ACUTE CORONARY SYNDROMES – CURRENT GUIDELINES AND FUTURE PROSPECTS

3734 | BEDSIDE
Evaluation of the safety of the ESC 2011 guidelines for rapid rule-out of NSTEMI using high-sensitivity cardiac troponin I
B. Moehring1, R. Twerenbold2, K. Wildi3, M. Rubini Gimenez2, S. Moschetti2, F. Gimeno3, F. Fernandez Aviles4, A. Sanchez-Ramos4, V. Pineda1, R. Ruiz Salmeron1, F. Gimeno3, F. Fernandez Aviles4, A. San Millan5, B. Garcia Del Blanco1 on behalf of PROMISE. 1Hospital Universitari Vall d’Hebron, Cardiology Department, Barcelona, 2University Hospital of Virgen Macarena, Seville, 3Clinic University Hospital of Valladolid, IDICOR, Valladolid, 4Univ. General Hospital Gregorio Maranon, Dept. of Cardiology, Madrid, Spain

Purpose: High-sensitivity cardiac troponin (hs-cTn) assays have been shown to significantly improve the early diagnosis of acute myocardial infarction. The 2011 ESC guidelines for the management of acute coronary syndromes in patients without persistent ST-segment elevation contain for the first time a new fast track rule-out protocol including hs-cTn. We intended to verify the safety of this fast track protocol in our prospective study setting.

Methods: Out of our ongoing prospective international multicenter study 2187 consecutive patients who presented with symptoms suggestive of acute myocardial infarction and absence of significant ST-elevations in the ECG were included. The final diagnosis was adjudicated by two independent cardiologists using all available information including high-sensitivity cardiac Troponin I.

The ESC rapid rule-out protocol was tested using a novel high-sensitivity cardiac troponin I assay (hs-cTnI, 99th percentile defined as 26.2 ng/l) performed on blood measurement using hs-cTnI and in the latter group, on two hs-cTnI values, at <2 hours and 6 hours after reperfusion. MRI imaging could not be performed during the acute phase in 20 patients, mainly due to previously unknown claustrophobia.

Results: In-hospital mortality was 1.6%. In 12 patients (75,0%) pulmonary function and side of the heart improved pulmonary function and it gave the chance to switch from VA-ECMO circuit to a short-term LVAD as the bridge to solution. In hospital survival in patients arrived to these solutions was 8/10 (80,0%).

Conclusions: In our series the double drenaage both of the right and the left side of the heart improved pulmonary function and it gave the possibility to switch from the VA ECMO to a short-term LVAD in the majority of cases. After clinical stabilization of patients it was possible to access to a definitive treatment. We think that in the setting of an VA ECMO, TLVV implantation is useful in order to identify the best candidate for permanent LVAD, heart transplantation or recovery reducing significantly the risk of unsuccesses.

3735 | BEDSIDE
Outcomes at 1 year in atrial fibrillation patients with versus without an acute coronary syndrome: insights from the prospective GARFIELD Registry
F.W.A. Verheugt1, S.Z. Goldhaber2, D. Atar3, A.J. Camm1, G. Amбросiò2, P. Jansky5, J. Steepsinska, S.K. Ruushton-Smith6, G. Kayani4, A.K. Kakkar2 on behalf of GARFIELD Investigators. 1Onze Lieve Vrouwe Gasthuis, Department of Cardiology, Amsterdam, Netherlands; 2Harvard Medical School, Brigham and Women's Hospital, Boston, United States of America; 3Oslo University Hospital, Oslo, Norway; 4St George's University of London, London, United Kingdom; 5University of Perugia, Faculty of Medicine, Department of Cardiology, Perugia, Italy; 6University Hospital Motol, Prague, Czech Republic; 7Institute of Cardiology, Warsaw, Poland; 8Thrombosis Research Institute, London, United Kingdom; 9Roche PharmaBiocarecs, St. Albans, United Kingdom

Purpose: To compare cardiovascular outcomes in patients with atrial fibrillation (AF) with versus without a history of acute coronary syndrome (ACS).

Methods: Adults (>18 years) with newly diagnosed non-valvular AF and ≥1 additional stroke risk factor (investigator defined) were enrolled at 540 sites in 19 countries. The effect of prior ACS on 1-year outcomes was determined using a Cox proportional hazards model, adjusting for antithrombotic treatment and CHAD2DS-V:2-AF risk factors. Follow-up data were available in 95%.

Results: Of the 10,614 adults enrolled, 10% had a history of ACS (Table). Patients with prior ACS were at higher risk of an ACS recurrence versus those without ACS (event rates: 2.8% vs 0.5%; adjusted HR 4.26, 95% CI 1.63-11.10) but not for death (3.8% vs 2.0%; HR 1.01, 95% CI 0.62-1.64), stroke (1.4% vs 1.2%; HR 1.03, 95% CI 0.47-2.25) or major bleed (0.7% vs 0.5%; HR 0.75, 95% CI 0.26-2.18).

Baseline characteristics

<table>
<thead>
<tr>
<th>Variable</th>
<th>No ACS (n=9554)</th>
<th>ACS (n=1060)</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, mean (SD), y</td>
<td>70 (11)</td>
<td>72 (10)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Congestive heart failure, %</td>
<td>19.7</td>
<td>32.5</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Hypertension, %</td>
<td>77.3</td>
<td>86.2</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Coronary artery disease, %</td>
<td>10.3</td>
<td>99.2</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Diabetes mellitus, %</td>
<td>20.7</td>
<td>35.8</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Prior stroke or transient ischemic attack, %</td>
<td>14.1</td>
<td>17.5</td>
<td>0.002</td>
</tr>
<tr>
<td>Vascular disease, %</td>
<td>6.1</td>
<td>14.7</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Risk score, mean (SD)</td>
<td>1.8 (1.2)</td>
<td>2.3 (1.2)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>– CHADS2</td>
<td>3.1 (1.6)</td>
<td>4.4 (1.6)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>– HAS-BLED</td>
<td>1.3 (0.9)</td>
<td>1.5 (1.0)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Oral antithrombotic therapy initiated at diagnosis, %</td>
<td>&lt;0.001</td>
<td></td>
<td></td>
</tr>
<tr>
<td>– VKA +</td>
<td>9.1</td>
<td>24.7</td>
<td></td>
</tr>
<tr>
<td>– VKA only</td>
<td>46.9</td>
<td>29.8</td>
<td></td>
</tr>
<tr>
<td>– Ap only</td>
<td>24.5</td>
<td>31.7</td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>15.3</td>
<td>6.8</td>
<td></td>
</tr>
</tbody>
</table>

AF: atrial fibrillation; VKA, vitamin K antagonist.

In AF, a history of ACS is associated with a high 1-year risk of recurrent ACS, but not with more death, stroke or bleeding events.

3736 | BEDSIDE
Primary results of the PROMISE trial: myocardial protection with intracoronary adenosine given before reperfusion in patients with STEMI
D. Garcia-Dorado1, I. Otategui1, J.F. Rodriguez Palomares1, A. Evangelista1, V. Pineda1, R. Ruiz Salmeron1, F. Gimeno3, F. Fernandez Aviles4, A. San Millan5, B. Garcia Del Blanco1 on behalf of PROMISE. 1Hospital Universitari Vall d’Hebron, Cardiology Department, Barcelona, 2University Hospital of Virgen Macarena, Seville, 3Clinic University Hospital of Valladolid, IDICOR, Valladolid, 4Univ. General Hospital Gregorio Maranon, Dept. of Cardiology, Madrid, Spain

Purpose: The multicenter PROMISE trial (NCT 00781404) investigated the effect of intracoronary adenosine (ADO) administered at the time of primary percutaneous coronary intervention (PCI) on infarct size, microvascular obstruction (MVO), and post-infarction remodeling.

Methods: Randomized, parallel, double blinded, placebo-controlled clinical trial in 201 first STEMI patients within 6 hours of symptoms onset (SO) with persistent TIMI flow 0-1 after crossing the culprit lesion. Patients were randomized to receive 4 mg ADO or saline over 2 min distal to the lesion, immediately before reperfusion performed mostly with thrombectomy and direct stenting. Relative infarct and MVO mass (% of LV mass) after gadolinium administration and LV ejec- tion fraction (LVEF) where assessed by magnetic resonance imaging (MRI) 2-7 days and 6 months after reperfusion. MRI imaging could not be performed during the acute phase in 20 patients, mainly due to previously unknown claustrophobia. Six-months follow-up with MRI could be performed in 138 patients.