Incidence of pericarditis over the years

Conclusion: PMPI is a relatively rare complication of AMI, in particular STE-ACS. In the aggressive coronary reperfusion era, portends worse short-term but not long-term outcomes, and is associated with bigger infarcts in STE-ACS.

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Predictive value of big endothelin-1 on cardiovascular events in patients with myocardial infarction younger than 35 years old

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Background: Big endothelin-1 (ET-1) has been indicated to be a risk marker for cardiovascular disease and events. And the prevalence of myocardial infarction (MI) is increasing in younger patients. However, predictive value of big ET-1 for cardiovascular outcomes in very young MI patients has not been characterized.

Purpose: To investigate whether big ET-1 can be a useful marker for predicting the future events in patients with myocardial infarction younger than 35 years old.

Methods: Five hundred and sixty-five consecutive MI patients younger than 35 years of age were studied and followed up for 37.78±24.90 months. All patients underwent coronary angiography. The major adverse cardiovascular events (MACEs) consisted of all-cause death, non-fatal MI, stroke, revascularization and readmission for unstable angina and heart failure. Receiver operating characteristics (ROC) analysis was conducted to examine the predictive value of big ET-1 for MACEs. The event-free survival rate was calculated by the Kaplan–Meier method. Multivariable Cox regression analysis showed that big ET-1 was an independent predictor for MACEs in Chinese MI patients younger than 35 years of age.

Results: Of the 565 patients, 92 MACEs (MACEs group, n=92) occurred. Compared with non-MACEs group (n=473), the MACEs group had higher levels of big ET-1. Multivariable Cox regression analysis showed that big ET-1 was positively correlated with MACEs (Odds Ratio [OR]: 2.996, 95% confidence interval [CI]: 1.920–4.677, p<0.001). The area under receiver operating characteristics (ROC) curve showing the predictive value of big ET-1 on MACEs was 0.67. Patients with higher levels of big ET-1 had lower event-free survival rate (p<0.05).

Conclusions: Our study firstly demonstrated that big ET-1 was an independent predictor for MACEs in Chinese MI patients younger than 35 years of age. Further studies were needed to confirm our findings.

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Detailed temporal patterns of high-sensitivity-cardiac troponin I and T during long-term follow-up after acute coronary syndrome


Background: Incidence of pericarditis following acute coronary syndrome (ACS), is currently not available.

Purpose: To describe the wash-out patterns of HsTnI and T after ACS and to determine their variability during the stable phase thereafter.

Methods: BIOMArCS is a multicenter, prospective, observational study of 844 ACS-patients with 1-year follow-up. Venepuncture was performed every fortnight during the first half-year and monthly thereafter. We determined HsTnI and T in 146 randomly selected event-free patients. This subset was enriched with 49 patients who underwent daily sampling during the first 4 days. The average wash-out patterns were determined using linear mixed models. Parameters of variability were determined using the post-6-month samples of all patients who had at least three measurements after that time.

Results: The mean (SD) age of the patients was 62.4 (10.6) years and 78% were men. For the total cohort (n=919) a median of 8 (5–10) blood samples were available; after 6 months 98 patients had at least 3 blood samples available (median 4). Both HsTnI and T were clearly elevated during ACS and stabilized after approximately 2 weeks. However, HsTnl T remained almost 3 times longer (45 vs 15 days) above the reference value on average than HsTnI T (figure). Both troponins exhibited a low within-patient but large between-patient variation (see table).

Variation in six months post ACS samples

<table>
<thead>
<tr>
<th>Average patient level (median IQR)</th>
<th>CVa</th>
<th>CVI</th>
<th>CVg</th>
<th>II</th>
<th>RCV up (%)</th>
<th>RCV low (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HsTnI</td>
<td>5.3 (3.7–8.3)</td>
<td>5.0</td>
<td>14.0</td>
<td>94.1</td>
<td>0.16</td>
<td>50.5</td>
</tr>
<tr>
<td>HsTnT</td>
<td>7.8 (5.1–11.1)</td>
<td>3.0</td>
<td>18.1</td>
<td>75.9</td>
<td>0.24</td>
<td>65.5</td>
</tr>
</tbody>
</table>

CVa = analytical coefficient of variation; CVg = interindividual coefficient of variation; CVI = intrindividual coefficient of variation; HsTnI = high-sensitivity troponin I; HsTnT = high-sensitivity troponin T; II = index of individuality; when the II is low (<0.6), patient-specific reference values are recommended (based on previous measurements); RCV = reference change value; the reference change value reflects the upper and lower limit of the change that can be explained by the combination of the individual and the analytical variation. A rise/decrease of a biomarker exceeding this limit can thus be defined as a relevant change.

Conclusions: HsTnI and T remain elevated for a prolonged period after ACS. Given the low within-patient variation but large between-patient variability, we advocate repeated measurements during the first 6 months after ACS to determine patient-specific reference values.


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Impact of extra-cardiac diseased location on long-term prognosis in patients with acute coronary syndrome who underwent percutaneous coronary intervention


Background: Although various studies reported that the coexistence of peripheral arterial disease in patients with coronary artery disease (CAD) is associated with bad prognosis, the impact of diseased location on long-term prognosis has not been fully investigated in patients with acute coronary syndrome (ACS).

Purpose: We assessed whether the presence of lower extremity peripheral artery disease (Lx-PAD) and or the carotid artery stenosis (CAS) affects the prognosis among patients with ACS.

Methods: In a total of 733 (572 men; mean age, 68±12) patients with ACS who underwent PCI were retrospectively analyzed. All patients were performed examination of ankle-brachial index (ABI) and carotid ultrasonography. The presence of Lx-PAD was defined as ankle-brachial index <0.9. The echocardiographic CAS was defined as carotid atherosclerosis with a stenotic area >50%, in the common carotid artery, the carotid bifurcation, and internal carotid artery. All-cause mortality was defined as primary endpoint in the present study. Cox-proportional hazard regression model was used to determine hazard ratios (HRs).

Results: There were 51 (7%) patients with Lx-PAD(+)CAS(+), 58 (8%) patients...