Current Status of the AMIS Plus Project

Dragana Radovanovic
Sponsors & Participants’ Meeting
5 March 2015, Berne
Status

• Project
• AMIS Plus Steering Committee
• Data Center
• How are the data collected?
• What do hospitals gain?
• Database status
• Achievements
• Summary
AMIS Plus

- The AMIS Project was initiated in 1997 with the aim to create a national databank to assess the diagnostic and therapeutic measures taken in Swiss myocardial infarction patients.

- An open-ended, prospective, observational, approved study.

- AMIS Plus has been continuously collecting data since 1997 on patients admitted to Swiss hospitals with acute coronary syndromes.
Steering Committee

Paul Erne (chairman) (Lucerne)

Osmund Bertel (Zurich)
Franz Eberli (Zurich)
Manfred Essig (Zweisimmen)
Juan F. Iglesias (Lausanne)
Raban Jeger (Basel)
Marco Maggiorini (Zurich)
Giovanni Pedrazzini (Lugano)

Milo A. Puhan (Zurich)
Dragana Radovanovic (Zurich)
Hans Rickli (St. Gallen)
Marco Roffi (Geneva)
Jean-Christophe Stauffer (Fribourg)
Philip Urban (Geneva)
Stephan Windecker (Berne)

New members elected today:
- Thomas Pilgrim (Berne) (successor of SW)
- Michael Zellweger (Basel) (quality assessment advisor)
Data Center

- The hub for sponsors, medical societies and participating hospitals
- Located at the Epidemiology, Biostatistics and Prevention Institute (ex. Institute of Social and Preventive Medicine), University of Zurich

The Role of the Data Center

- Data collection, cleaning, analysis and controlled dissemination of data and information
- Introduce new hospitals to the registry
- Coach participating hospitals
- Data analysis and preparation of publications
- Collaboration with other organizations
- Keep sponsors and participants informed

Team

- Dragana Radovanovic (70%)
- Jenny Piket (70%)
- Nina Steinemann (20%)
- Fabienne Witassek (40%)

Medical students
- Nadia Fehr
- Lea Maurer

Medical students
How are the data collected?

Data Collection → Data Center

Data are controlled, cleaned & merged → AMIS Plus Database

Follow up

AMIS Acute Myocardial Infarction in Switzerland
AMIS Plus Questionnaire

The data collected include:

- Baseline characteristics and demographics
- Risk factors, comorbidities, regular medication
- Symptoms and clinical signs at admission
- Immediate therapy - drugs and interventions
- Laboratory parameters
- Hospitalization course and procedures
- Complications and outcomes
- Discharge treatment
- Telephone follow-ups since 2005

- Updated 15 times
- Number of variables included increased from 115 to over 300
- Online data entry system changed 5 times
AMIS Plus Follow-up

- Follow-up questionnaire was extended
- Now includes:
  - Lifestyle changes, e.g. physical activity, weight, smoking
  - Drug compliance
  - Rehabilitation
  - New diagnoses
AMIS Plus Auditing

- Random selection of participating hospitals (3 small/B and 2 large/A)
- Random selection of patients (5 - 10/12) to be audited per year
- Performed by the Clinical Trials Unit Basel

Summary 2011-2014

- Audit Sites Visited: 15 (9 smaller and 6 large hospitals)
- Total Source Data Verification
  - 91 CRF with 1740 data items
- Total Findings
  - Critical 1 (0.05%)
  - Major 1 (0.05%)
  - Minor 39 (2.2%)
- No findings in 4 hospitals
What’s in it for hospitals?

- Stay informed on one of the most common acute admission diagnoses for quality assurance
- Newsletters providing overall and specific analyses
- Hospital-specific analyses
- Benchmarking = Reporting System

Reports

Click on the report icon to start the analysis:
9 reports found, displaying all reports.

<table>
<thead>
<tr>
<th>Run</th>
<th>Report Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of Patients</td>
<td>This report shows the number of patients</td>
</tr>
<tr>
<td></td>
<td>Age Statistics</td>
<td>This report shows the age statistics of the patients</td>
</tr>
<tr>
<td></td>
<td>Killip Classification</td>
<td>This report shows an overview of the patients’ Killip classifications</td>
</tr>
<tr>
<td></td>
<td>Immediate Therapy: Thrombolysis</td>
<td>This report shows the number of thrombolysis done as immediate therapy</td>
</tr>
<tr>
<td></td>
<td>Immediate Therapy: Percutaneous Coronary Intervention (PCI)</td>
<td>This report shows the number of PCI done as immediate therapy</td>
</tr>
<tr>
<td></td>
<td>Immediate Therapy: Medication</td>
<td>This report shows the kind of medication given as immediate therapy</td>
</tr>
<tr>
<td></td>
<td>Complications</td>
<td>This report shows a summary of complications</td>
</tr>
<tr>
<td></td>
<td>Crude Mortality</td>
<td>This report shows the crude mortality rate</td>
</tr>
<tr>
<td></td>
<td>Follow-Up</td>
<td>This report shows a summary of follow-up occurrences</td>
</tr>
</tbody>
</table>
Killip Classification
## Complications

<table>
<thead>
<tr>
<th>Type of Complication</th>
<th>My hospital</th>
<th>Other hospitals</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>01. AV block (needing pacing)</td>
<td>17</td>
<td>285</td>
<td>302</td>
</tr>
<tr>
<td>02. Cardiogenic shock (developed during hospitalization)</td>
<td>44</td>
<td>2,386</td>
<td>2,430</td>
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<tr>
<td>03. Recurrent ischemic episodes (post-infarction angina)</td>
<td>0</td>
<td>3,025</td>
<td>3,025</td>
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<tr>
<td>04. Infarction in patient admitted for unstable angina</td>
<td>1</td>
<td>249</td>
<td>250</td>
</tr>
<tr>
<td>05. Re-infarction</td>
<td>14</td>
<td>740</td>
<td>754</td>
</tr>
<tr>
<td>06. Cerebrovascular event</td>
<td>10</td>
<td>365</td>
<td>375</td>
</tr>
<tr>
<td>07. Acute renal failure (needing treatment)</td>
<td>6</td>
<td>283</td>
<td>289</td>
</tr>
<tr>
<td>08. Sepsis/ SIRS/ Multiorgan failure</td>
<td>6</td>
<td>216</td>
<td>222</td>
</tr>
<tr>
<td>09. Atrial fibrillation at discharge</td>
<td>5</td>
<td>183</td>
<td>188</td>
</tr>
<tr>
<td>10. New heart failure (Killip III-IV)</td>
<td>3</td>
<td>335</td>
<td>338</td>
</tr>
<tr>
<td>11. Other complications</td>
<td>91</td>
<td>2,142</td>
<td>2,233</td>
</tr>
<tr>
<td>12. No answer for complications</td>
<td>3</td>
<td>13</td>
<td>16</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1,316</td>
<td>40,428</td>
<td>41,744</td>
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</table>

### Bar Chart

<table>
<thead>
<tr>
<th>1. Yes</th>
<th>2. No</th>
</tr>
</thead>
<tbody>
<tr>
<td>15%</td>
<td>22%</td>
</tr>
<tr>
<td>My hospital</td>
<td>Other hospitals</td>
</tr>
</tbody>
</table>
AMIS Plus Database
(January 1997 – March 2015)

• 49,615 ACS patients

• 8738 with 1-year follow-ups
AMIS Plus Participants
(January 1997 – March 2015)

83 hospitals

Currently 49
AMIS Plus Achievements

- 102 presentations at congresses and meetings
- 5 dissertations
- 1 diploma
- 1 MPH thesis
- 56 publications, 41 peer-reviewed

Sponsors are acknowledged by name
Publications

List of Papers and Abstracts [see below]

Papers List:

2015


2014


  


2013


Summary

**AMIS Plus Registry**

- Contains a huge amount of reliable data
- Enables benchmarking
- Shows intervention possibilities
- Enables improvement in logistics and algorithms
- Verifies whether RCT results are translatable into everyday clinical practice
- Supports a robust quality improvement effort designed to encourage evidence-based acute cardiac care and ultimately improve patient outcome
Thank you!