Platelet function testing predicts bleeding complications in elderly patients admitted for an acute coronary syndrome: insights from the ANTARCTIC trial


for the ACTION Study Group
www.action-coeur.org
I have the following potential conflicts of interest to report:

Research grants: Biotronik, Daiichi Sankyo and Eli-Lilly

Consulting fees: AstraZeneca, Daiichi Sankyo, Eli-Lilly and Novartis
✓ Increased risk of bleedings in elderly patients particularly if ACS/PCI.

✓ Antiplatelet therapy adjustment using PFT* failed to improve net clinical benefit in the randomized ANTARCTIC trial.

STUDY PURPOSES

→ To determine the incidence of bleedings in a population of elderly ACS patients

→ To determine the predictive value of PFT and treatment adjustment on the occurrence of clinically relevant bleedings.

*Platelet Function Testing
Prespecified analysis on the **877 patients randomized** in the ANTARCTIC trial.

**METHODS**

ACS patients ≥75 years with stent implantation

**CONVENTIONAL ARM**
- Prasugrel 5 mg
- No monitoring

**MONITORING ARM**
- Prasugrel 5 mg

- **Test #1: VerifyNow at 14 days**
  - PRU ≤ 85: Prasugrel 10mg
  - 85 < PRU < 208: No change
  - PRU ≥ 208: Clopidogrel 75mg

- **Test #2: VerifyNow at 14 days**
  - New treatment adjustment if necessary with the same PRU thresholds

**12-month follow-up**: occurrence of clinically relevant and major bleedings (BARC classification) and correlation with ischemic events (composite of cardiovascular death, myocardial infarction and stroke)
RESULTS – BLEEDING EVENTS

Clinically relevant bleedings (BARC types 2, 3 or 5)

At one year, clinically relevant bleedings occurred in 20.6% of this elderly population of which 1/3 occurred within the first month.
### RESULTS - TREATMENTS RELATED TO BLEEDINGS

<table>
<thead>
<tr>
<th>Final treatment after two-step adjustment</th>
<th>Overall population N=877</th>
<th>Clinically relevant bleeding N=181</th>
<th>No bleeding N=696</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRASUGREL 5MG/J</td>
<td>669 (77.8%)</td>
<td>136 (77.3%)</td>
<td>533 (77.9%)</td>
<td>0.91</td>
</tr>
<tr>
<td>PRASUGREL 10MG/J</td>
<td>22 (2.6%)</td>
<td>5 (2.8%)</td>
<td>17 (2.5%)</td>
<td></td>
</tr>
<tr>
<td>CLOPIDOGREL 75MG/J</td>
<td>169 (19.7%)</td>
<td>35 (19.9%)</td>
<td>134 (19.6%)</td>
<td></td>
</tr>
</tbody>
</table>

**NO significant difference between the treatments administered for the occurrence of bleedings**

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Clinically relevant bleeding</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRASUGREL 5MG/J</td>
<td>20.3% (136/669)</td>
</tr>
<tr>
<td>PRASUGREL 10MG/J</td>
<td>22.7% (5/22)</td>
</tr>
<tr>
<td>CLOPIDOGREL 75MG/J</td>
<td>20.7% (35/169)</td>
</tr>
</tbody>
</table>

**Clinically relevant bleedings in 1/5 patients whatever treatment**
RESULTS – PREDICTIVE FACTORS OF CLINICALLY RELEVANT BLEEDINGS

Last measured PRU

<table>
<thead>
<tr>
<th></th>
<th>clinically relevant bleeding (n=181)</th>
<th>No bleeding (n=696)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean ± SD</td>
<td>104 ± 63</td>
<td>120 ± 55</td>
</tr>
<tr>
<td>Min, Max</td>
<td>2, 308</td>
<td>3, 357</td>
</tr>
</tbody>
</table>

Last PRU before event (unit=10)

Adj. HR(95%CI)  p

- Age>85 years: 1.04 (0.57;1.90) 0.91
- Female sex: 1.30 (0.80;2.11) 0.29
- BMI: 0.96 (0.90;1.03) 0.28
- Hypertension: 1.68 (0.91;3.09) 0.10
- Diabetes: 1.21 (0.72;2.04) 0.47
- NSTEMI: 0.77 (0.43;1.38) 0.39
- Radial access: 0.62 (0.31;1.26) 0.19

Last PFT → the only independent predictor of clinically relevant bleedings
CONCLUSIONS

1. Clinically relevant bleedings were observed in 1 out of 5 elderly ACS stented patients

2. Following treatment adjustment according to platelet reactivity, the type of antiplatelet therapy (drug/dose) was not predictive factor of bleeding events

3. PFT did not improve clinical outcomes
   BUT identified patient bleeding risk when the chronic treatment was installed

Slides available on www.action-coeur.org