De-escalation versus escalation of antiplatelet therapy in elderly ACS patients: insight from the ANTARCTIC trial.


For the ACTION study group
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- I have the following potential conflicts of interest to report:

  Receipt of honoraria or consultation fees: Abbott, AstraZeneca, Bayer AG, Biotronik, Boston Scientific, Daiichi Sankyo and Eli-Lilly, Medtronic, MSD, Pfizer, The Medecine Company
Background

In elderly patients stented for an ACS, ANTARCTIC study (1) failed to improve the net clinical benefit of a strategy of platelet function monitoring with dose and drug adjustment as compared with a conventional strategy using the same 5mg dose of prasugrel in all patients.

The ANTARCTIC study offers the opportunity to analyze the biological impact of escalation or de-escalation of antiplatelet agents in elderly patients.

(1) ANTARCTIC, Cayla et al. Lancet 2016
Methods

Among the 877 patients randomized: 435 were allocated to the monitoring strategy:
- Verifynow 14 days after initiation of prasugrel 5mg
- Verifynow repeated 14 days later in patients who required a change in treatment.

The optimal range of platelet reactivity was defined as PRU between 208 and 85.

High Platelet Inhibition (HPI): PRU ≤85
- prasugrel 5mg
  - De-escalation
  - clopidogrel 75mg

High Platelet Reactivity (HPR): PRU ≥208
- prasugrel 5mg
  - Escalation
  - prasugrel 10mg
High Platelet Inhibition (PRU ≤ 85)

Observed in 182 patients (42 % of the monitoring group)

Factors independently associated with HPI were

- Body Mass Index ; Adj OR: 0.91 (95% CI 0.87-0.96), p<0.001
- Hemoglobin Level (unit 1 g/dl) ; Adj OR: 1.33 (95% CI 1.15-1.53), p<0.0001
- Unstable Angina ; Adj OR: 0.51 (95%CI 0.29-0.88), p=0.016
De-escalation (first Adjustment)

Mean PRU = 41

- HPR despite De-escalation: 4%
- Optimal range: 59%
- HPI despite De-escalation: 37%

Prasugrel 5 mg → Clopidogrel 75 mg
High Platelet Reactivity (PRU ≥ 208)

Observed in 29 patients (6.4 % of the monitoring group)

Factors independently associated with HPR were

- Peripherical vascular disease; Adj OR: 3.3 (95% CI 1.18-9.21), p=0.03
- History of prior cancer; Adj OR: 5.68 (95% CI 2.21-14.63), p=0.0003
- Hemoglobin level (unit 1 g/dl); Adj OR 0.56 (95% CI 0.42-0.74), p<0.0001
Escalation (first Adjustment)

Mean PRU = 247

- HPR: 0%
- Optimal range: 78%
- HPI: 22%

Prasugrel 5 mg → Prasugrel 10 mg

p < 0.001

Mean PRU: 247

Prasugrel 5 mg: 29, 247, 34.9

Prasugrel 10 mg: 18, 125, 56.5
Conclusion
In elderly patients stented for an ACS on prasugrel 5 mg, a strategy of platelet function monitoring led after final adjustment to

- **de-escalation in 42 % after the first test and 39% (171/435) after the final test**
- **escalation in 6 % after the first test and 4 % (n=16/435) after the final test**

PFT increased the number of patients in the optimal range of platelet inhibition (85<PRU<208) from Test 1: 182 (42%) to final test: 287 (66%)

However, this strategy had no impact on clinical outcomes

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