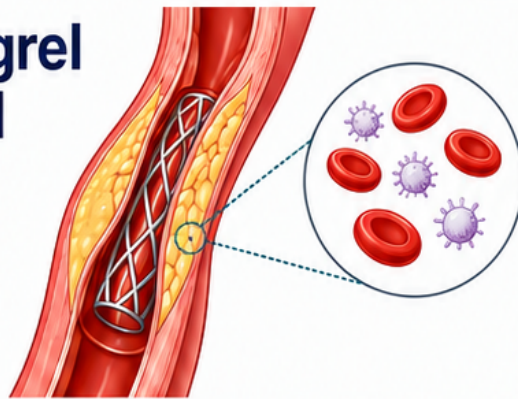


1

Overcoming Clopidogrel Resistance in Carotid Artery Stenting

Single-center experience with platelet function testing and tailored antiplatelet therapy

Vigláš P, Raupach J, Hejčíl A, Černík D, Bradáčová P, Matras P, Cihlář F. *Clin Pract.* 2026;16:38



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WHY THIS MATTERS



Dual antiplatelet therapy is essential to reduce thromboembolic complications after carotid artery stenting (CAS).



Clopidogrel response is variable: some patients have high on-treatment platelet reactivity (HTPR).



Platelet function testing may help identify patients who need a tailored P2Y12 inhibitor.

3

STUDY DESIGN



Retrospective, single-center observational study.



216 consecutive patients undergoing carotid artery stenting from 2015–2024.



Platelet function assessed using light transmission aggregometry or Multiplate.



Aim: detection HTPR to aspirin/clopidogrel and evaluate alternatives in clopidogrel-resistant patients.

4

3 KEY FINDINGS

1

Clopidogrel resistance was common



31.4%
68/216 patients

High on-treatment platelet reactivity to clopidogrel was observed in nearly 1 in 3 CAS patients.



Aspirin HTPR:
25.4% (56/216)

2

Switching therapy improved platelet inhibition

HIGH PLATELET REACTIVITY (HTPR)



LOWER PLATELET REACTIVITY



Ticagrelor used in **45/68** patients



Ticlopidine used in **23/68** patients

Both significantly reduced platelet reactivity ($p < 0.001$).

3

No resistance observed after switching

0



patients with HTPR to ticagrelor or ticlopidine

Ticagrelor showed rapid, potent, predictable platelet inhibition.



Ticlopidine was effective but is no longer preferred due to safety concerns and limited contemporary use.

5

CLINICIAN TAKEAWAY



- Consider platelet function testing before CAS when clopidogrel response is uncertain.
- Tailored therapy can identify non-responders and support safer antiplatelet selection.
- Ticagrelor is the preferred contemporary alternative when clopidogrel HTPR is present.



FUTURE DIRECTION

- Validate tailored antiplatelet strategies in multicenter prospective studies.
- Clarify which patients benefit most from routine platelet function testing.
- Link laboratory response more directly to stroke, thrombosis, and bleeding outcomes.



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