Recurrent cardiovascular events and mortality in relation to antiplatelet therapy in patients with myocardial infarction without obstructive coronary artery disease (MINOCA)

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On behalf: CURRENT OASIS 7 trial investigators

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Background: Approximately 10% of patients presenting with myocardial infarction (MI) do not have obstructive coronary artery disease (MINOCA). The role of antiplatelet therapy and outcomes in this group remain unclear. We assessed prognosis and the effect of an intensified clopidogrel regimen in MINOCA patients.

Methods: We analyzed data from the CURRENT-OASIS 7 trial, which randomized 25,086 patients with acute coronary syndromes (ACS) referred for early intervention to receive either double-dose (600mg day 1; 150mg days 2–7; then 75mg daily) or standard-dose (300mg day 1; then 75mg daily) clopidogrel. We evaluated clinical outcomes at 30-days in patients with versus without obstructive CAD and in relation to standard versus double-dose clopidogrel.

Results: Overall, 23,783 MI patients were included, of which 1,599 (6.7%) had MINOCA. MINOCA patients were younger, more frequently presented with non-ST-segment elevation MI and had fewer comorbidities. Rates of all-cause mortality (0.7% versus 2.4%, p=0.0046), cardiovascular mortality (0.6 versus 2.2%, p=0.0056), repeat MI (0.5% versus 2.3%, p=0.0009) and major bleedings (0.7% versus 2.5%, p=0.0001) were significantly lower among patients with MINOCA versus those with obstructive CAD. Compared with the standard-dose clopidogrel regimen, the double-dose regimen appeared to increase the risk of cardiovascular death, MI or stroke in MINOCA patients (0.8% versus 2.1%, hazard ratio (HR) 2.74, P=0.033). There was no difference in those with obstructive CAD (4.7% versus 4.9%, HR 1.03, P=0.226; P-for-interaction=0.023) (see Figure 1A). Major bleeding did not occur more frequently in MINOCA patients with double- versus standard-dose clopidogrel regimen (0.7% versus 0.6%, (HR 1.16 (95% CI 0.35–3.80), p=0.805), but their rate was higher In MI patients with obstructive CAD (2.7% versus 2.2% (HR 1.26 (95% CI 1.06–1.49), p=0.008) (Figure 1B).

Conclusions: Compared to MI patients with obstructive CAD, patients presenting with MINOCA represent a distinct cohort, which is generally younger, has a higher NSTEMI prevalence and fewer comorbidities. Their risk for adverse events, especially repeat MI, stroke, death, and bleeding, is low (<1%) at 30 days. Applying an intensified clopidogrel regimen in MINOCA patients appears to be related to a higher risk for CV death, MI and stroke. Accordingly, more potent antiplatelet regimens might be harmful among MINOCA patients and should not be administered routinely. Nevertheless, there is a need for more prospective studies evaluating the role of dual antiplatelet therapies in MINOCA patients.


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Figure 1A & B: Cumulative hazard plots for death, MI, stroke at 30 days and major bleeding at 30 days in different patient groups.