Atherothrombotic residual risk in coronary and peripheral artery disease patients on guideline-recommended antiplatelet monotherapy: baseline preliminary results from the RESRISK study

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Introduction: Greater recognition of a multi-factorial approach to risk factor control and use of guideline-recommended evidence-based therapies, including antiplatelets, have led to a decline in recurrent cardiovascular (CV) events among those with atherosclerotic CV disease (ASCVD). While residual risk still persists, recent evidence-based therapies have emerged which could further attenuate CV risk in these individuals, including novel drugs adjunct to antiplatelet therapies.

Purpose: The RESRISK study aims to quantify the residual atherothrombotic risk among a routine care cohort with ASCVD on guideline-recommended antiplatelet monotherapy (APMT). As a first step, we assessed the characteristics of participants at entry in the study, including risk factor burden, comorbidities and use of evidence-based medications.

Methods: A retrospective (2010–18) cohort of 758,325 patients with coronary (CAD) or peripheral artery disease (PAD) aged ≥18 years was derived from the UK Clinical Practice Research Datalink. Patients were selected if they were on recommended APMT according to ESC guidelines and NICE (aspirin for CAD; clopidogrel for PAD), were diagnosed with CAD/PAD prior to initiating APMT, and had ≥1 year of baseline data prior to index date (date of first APMT prescription). History of atrial fibrillation and haemorrhagic stroke led to exclusion.

Results: 174,210 patients with CAD (and no prior history of PAD) and 11,050 patients with PAD (and no prior history of CAD) met the inclusion criteria. Within the selection process for the PAD cohort, 51,114 patients were excluded due to being prescribed aspirin instead of clopidogrel. Baseline characteristics are shown in Table. Mean age was ~70 years for both cohorts. While prevalence of hypertension was similar in both cohorts, presence of diabetes was 1.6 times higher in PAD patients. Stroke was 2.5 times more prevalent among PAD patients. The proportion of patients with systolic/diastolic blood pressure ≤130/≤85 mmHg were 41.6%/84.5% for CAD and 32.2%/80.6% for PAD (corresponding numbers for ≤140/≤90 mmHg were 67.8%/93.4% for CAD, and 58.8%/91.1% for PAD). Mean LDL-C was 2.4±0.9 and 2.6±1.1 mmol/L in CAD and PAD patients, with 10.7% and 9.5% of them, respectively, having an LDL-C <1.4 mmol/L (25.1% and 22.6% for LDL-C <1.8).

Conclusions: Among a contemporary cohort with ASCVD on guideline-recommended APMT, risk factor burden is high and attainment of guideline-recommended targets remains largely suboptimal. Prevalence of diabetes among PAD patients is particularly high. A large gap exists between guideline recommendations and guideline-recommended goal attainment. Greater attention to risk factor control and use of appropriate evidence-based therapy is required to reduce the potential risk of recurrent events among this high-risk population. Subsequent follow-up analysis with linkage to outcomes will provide quantification of the consequences of current practice on residual risk.

	CAD (n=174,210)	PAD (n=11,050)
Age at index, mean (SD)	69.8 ± 11.0	69.6 ± 11.7
▪ <50 years	4.8%	5.5%
▪ 51-60 years	15.0%	17.6%
▪ 61-70 years	30.3%	28.2%
▪ 71-80 years	32.7%	29.3%
▪ >81 years	17.2%	19.4%
Male	64.1%	57.4%
Hypertension	58.9%	60.6%
Diabetes	24.6%	40.4%
Hyperlipidaemia	33.5%	26.8%
Previous Stroke	7.0%	18.8%
Heart Failure	8.7%	4.5%
Chronic kidney disease	23.9%	23.0%
Systolic blood pressure*	135.7 ± 18.2	140.5 ± 20.0
Diastolic blood pressure*	75.9 ± 10.6	76.6 ± 11.3
Medications**		
▪ **Statins**	97.1%	90.2%
▪ **Angiotensin Converting Enzyme Inhibitors**	77.4%	47.0%
▪ **Angiotensin Receptor Blockers**	28.7%	20.1%
▪ **Beta-Blockers**	85.0%	30.6%
▪ **Calcium Channel Blockers**	63.6%	51.3%

** Blood pressure measurements: 12 months prior to index date. Patients with no blood pressure measurements: CAD: 5.3% and 6.0% for systolic and distolic blood pressure, respectively; PAD: 8.7% and 8.6% for systolic and diastolic blood pressure, respectively. ** Medications: 12 months prior to index date.*

Table 1