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What is **subclinical CAD ?** CAD documented on coronary angiography...

- Without evidence of hemodynamically significant stenosis
- Without diagnosis of acute coronary syndrome

In the literature :

- Role of ASA in secondary prevention for CAD : Well established**
 - Reduces incidence of ischemic events (acute coronary syndrome, revascularization, mortality).
- Role of ASA in primary prevention : Generally not recommended**
 - Net clinical benefit remains uncertain due to the balance between ischemic protection and bleeding risk.
- Role of ASA in subclinical CAD : No clear recommendations currently available**

According to the *Canadian Cardiovascular Society/Canadian Association of Interventional Cardiology 2023 Focused Update of the Guidelines for the Use of Antiplatelet Therapy* :

« *The role of **ASA** in **subclinical ASCVD** remains **undefined** and would encourage a patient-centred, informed, shared decision-making process (eg, in patients with asymptomatic atherosclerosis seen on computed tomography angiogram).* »

3 studies looked at ASA in subclinical CAD :

- Chow et al.* AHA / ASA Journals, 2015 :
 - Prospective study, 10,418 patients with subclinical CAD on coronary CT angiography
 - No observed benefit of ASA on mortality risk → Insufficient statistical power
- Marcos-Alberca Moreno et al.* Eur Heart J Cardiovasc Imaging Abstracts Suppl., 2015 :
 - Prospective study, 400 patients without prior cardiovascular disease
 - Higher prevalence of ASA prescription if subclinical CAD on coronary CT angiography
- Honigberg et al. JACC: Cardiovascular Imaging, 2020 :
 - Case-control study, 510 patients with subclinical CAD on coronary CT angiography and 510 matched controls
 - Higher prevalence of ASA prescription among patients with subclinical CAD

Objectives

Main objective :

- To describe the patterns of prescription of ASA in patients with subclinical CAD on coronary angiography.**

Secondary objectives :

- To describe the proportion of patients with subclinical CAD among those undergoing an elective coronary angiography.
- To characterize patients with subclinical CAD on elective coronary angiography.
- To determine the predictors of ASA prescription in patients with subclinical CAD on elective coronary angiography.
- To explore the incidence of ischemic events (revascularization, acute coronary syndrome, and mortality) in patients with subclinical CAD, with and without ASA prescription.

Methods

Single-center retrospective observational cohort study

Patients : 1,390 patients who underwent coronary angiography at the Montreal Heart Institute in 2022

Inclusion criteria

- Age 18 years and older
- Non-urgent coronary angiography between January 1st and December 31st, 2022
- Presence of subclinical CAD, defined by one of these criteria :
 - Stenosis of < 50% in the left main coronary artery (LMCA)
 - Stenosis of < 70% in other territories than the LMCA
 - Non-significant stenosis with IVUS, OCT, iFR or FFR

Exclusion criteria

- Patient with known peripheral or cerebrovascular atherosclerotic cardiovascular disease
- Patient with primary or secondary diagnosis of acute coronary syndrome
- Previous percutaneous coronary intervention or ACS
- Patient undergoing revascularization during hospital stay
- Any previous cardiac surgery

Issues :

- Primary issue : Prescription of ASA in the 30 days following coronary angiography**
- Secondary issues :**
 - ASA prescription between 31 and 365 days after coronary angiography
 - Within the year following coronary angiography establishing the diagnosis of subclinical CAD :
 - Occurrence of acute coronary syndrome
 - Need for coronary revascularization
 - All-cause mortality

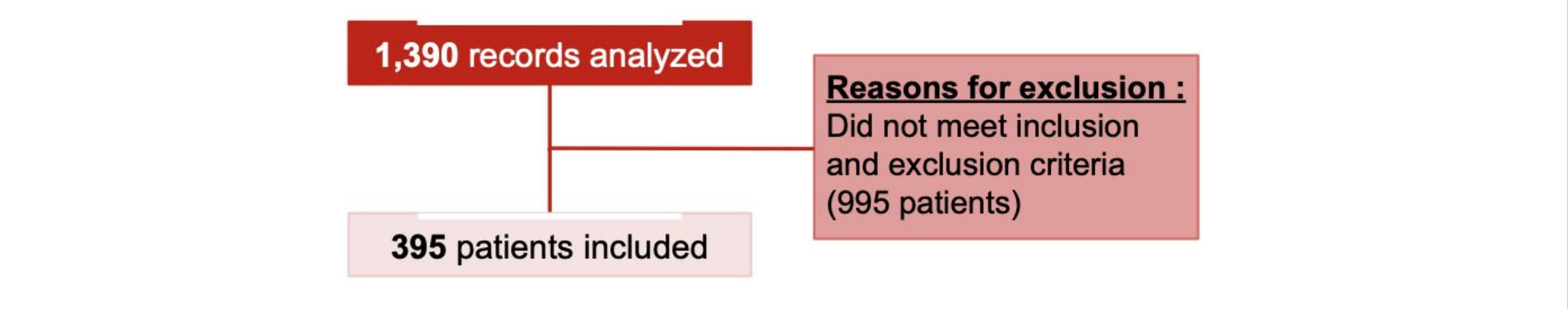
Statistical analyses :

- Frequencies** (percentages) for categorical variables ; **Mean** (standard deviation) and **median** (interquartile range) for continuous variables
- Univariable and multivariable logistic regressions**

Results

Patients

Figure 1. Patient flow diagram



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graph TD; A[1,390 records analyzed] --> B[395 patients included]; A --> C[Reasons for exclusion : Did not meet inclusion and exclusion criteria (995 patients)];
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Results

Table 1. Patient characteristics

Characteristics	Patients (n = 395)
Median age – Years	70.0 (62.0 – 76.0)
Male sex – No. (%)	236 (59.7)
Median BMI – kg/m ²	29.4 (25.5 – 33.6)
Medical history – No. (%)	
Hypertension	285 (72.2)
Dyslipidemia	286 (72.4)
Diabetes	90 (22.8)
Atrial fibrillation and/or atrial flutter	72 (18.2)
Heart failure	60 (15.2)
Cardiomyopathy	106 (26.8)
Valvular heart disease	223 (56.6)
Chronic kidney disease (stages 3 to 5)	45 (11.4)
Current medication – No. (%)	
Aspirin	199 (50.4)
P2Y12 receptor inhibitor	8 (2.0)
Anticoagulant	69 (17.5)
Indication for coronary angiography – No. (%)	
Suspected stable angina	142 (35.9)
De novo heart failure	10 (2.5)
Arrhythmias	4 (1.0)
Pre-operative assessment	212 (53.7)
Other	27 (6.8)

ASA

Table 2. Prescription of ASA

Variables	Freq. (n = 395)	Perc. (%)
Prescription of ASA within 30 days after coronary angiography	52	13.2
Prescription of ASA between 31 and 365 days after coronary angiography	94	23.8
Prior intake or prescription of ASA within 30 days after coronary angiography	225	57.0
Prior intake or prescription of ASA within 1 year after coronary angiography	297	75.2

Table 3. Factors associated with or limiting the prescription of ASA

- Multivariate logistic regression
- Variables of interest included regardless of their statistical significance in univariate analysis

Variables	OR (95% CI)	p-value
Factors associated with ASA prescription		
Personal history of dyslipidemia	1.95 (1.06 – 3.59)	0.032
Personal history of chronic kidney disease (CKD) of stages 3 to 5	2.78 (1.21 – 6.37)	0.016
Coronary angiography performed for suspected stable angina	3.61 (1.36 – 9.63)	0.010
Factors limiting ASA prescription		
Female sex	0.59 (0.35 – 0.98)	0.040
Personal history of atrial fibrillation and/or atrial flutter	0.08 (0.04 – 0.17)	< 0.001

Events

Table 4. Occurrence of events

Complications	Frequency (n = 395)	Percentage (%)	Percentage on ASA (%)
Mortality	6	1.52	66.7
Acute coronary syndrome	3	0.76	100
Revascularization	12	3.04	100
Combined events	20	5.06	90

Discussion

Study limitations :

- Single-center study
- Variability among individuals performing data collection

Conclusion

At the Montreal Heart Institute, **≈ 75% of patients continue or are prescribed ASA within 1 year** after coronary angiography showing subclinical CAD.

- More likely in **males**, patients with **dyslipidemia** or **CKD**, and those undergoing coronary angiography for **suspected stable angina**.
- Presence of **atrial fibrillation/flutter** limits ASA prescription.

Event rates within 1 year are **low**, occurring despite ASA use.

Randomized studies are needed to define ASA's role in subclinical CAD.

References



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