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Determinants of Coronary Artery Calcium Score in Patients Undergoing Cardiac Computed Tomography at a Private Hospital in Tirana, Albania: A Cross-Sectional Study

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Abstract

Background: Coronary artery calcium (CAC) scoring by computed tomography (CT) is a validated marker of subclinical coronary atherosclerosis, but its correlates have not been described in Southeast European clinical populations.

Aims: To describe the distribution of the coronary artery calcium score (CACS) and to identify the demographic, anthropometric, clinical, and coronary-anatomical factors independently associated with it in patients undergoing cardiac CT at a private hospital in Tirana, Albania.

Study design: Retrospective, single-center, cross-sectional study.

Methods: We analyzed 111 consecutive patients who underwent cardiac CT with calcium scoring over a three-month period, referred for a routine cardiovascular check-up or for signs and symptoms suggestive of coronary disease. Demographic, anthropometric, risk-factor, and CT-derived variables (CACS, percentage arterial stenosis, coronary dominance, myocardial bridging, aortic root diameter) were compared between patients with detectable (CACS>0) and undetectable (CACS=0) calcium, and multivariable linear regression on log-transformed CACS was performed.

Results: Mean age was 57.3±11.0 years (55.0% men); 53.2% had a CACS of 0. Patients with detectable calcium were older (60.6 vs 54.3 years, p=0.002) and more often diabetic (44.2% vs 6.8%, p<0.001). CACS correlated strongly with percentage stenosis of the left anterior descending

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(rho=0.833), right coronary (rho=0.744), and circumflex (rho=0.727) arteries (all p<0.001), and moderately with age (rho=0.350, p<0.001), but not with body mass index or aortic diameter. On multivariable analysis, age (p=0.002), male sex (p=0.002), and diabetes (p<0.001) were independent predictors of a higher calcium burden, whereas hypertension, hypercholesterolemia, smoking, and body mass index were not. Calcium burden was highest among patients referred for suspected acute coronary syndrome or chest pain and lowest among those undergoing a routine check-up (p=0.001).

Conclusion: Age, male sex, and diabetes mellitus were the main independent determinants of coronary artery calcium burden in this clinical population, supporting the use of calcium scoring for cardiovascular risk stratification in this setting.

Keywords: Albania, coronary artery disease, coronary vessels, risk factors, tomography x-ray computed, vascular calcification

INTRODUCTION

Cardiovascular disease (CVD) remains the leading cause of death worldwide, accounting for an estimated 19.8 million deaths annually, with ischemic heart disease as its single largest contributor (1,2). Coronary atherosclerosis develops over decades through a continuum that begins with endothelial dysfunction and lipid deposition and progresses toward fibrous-cap formation, plaque calcification, and eventual luminal stenosis. Vascular calcification is an active, cell-mediated process whose extent closely parallels the total burden of coronary atherosclerotic plaque on histology, which is the biological rationale for its non-invasive quantification by computed tomography (CT) as a marker of subclinical atherosclerosis (3).

The most widely used method for quantifying coronary calcification is the Agatston score, originally described in 1990 using electron-beam CT and later adapted to multidetector CT scanners (4). The method multiplies the area of each calcified lesion (attenuation ≥130 Hounsfield units) by a density-weighting factor and sums the results across all coronary segments (4). Alternative approaches, such as the volume score, were subsequently proposed to improve measurement reproducibility (5), and methodological reviews continue to refine the interpretation of Agatston measurements in everyday practice (6). For clinical purposes, the total coronary artery calcium score (CACS) is conventionally grouped into five categories: 0 (no identifiable calcium), 1-10 (minimal), 11-100 (mild), 101-400 (moderate), and >400 (extensive/severe), each associated with a distinct prognostic implication (7).

Large population-based cohorts, most notably the Multi-Ethnic Study of Atherosclerosis (MESA), have established that CACS increases progressively with age and is systematically higher in men than women across all age strata (8), that its progression over time independently predicts incident coronary events (7), and that its addition to conventional risk factors materially improves 10-year prediction of atherosclerotic cardiovascular disease (ASCVD) events (9,10). These findings underpin current international recommendations: the 2018 American Heart Association/American College of Cardiology cholesterol guideline and the accompanying risk-assessment special report both endorse CACS testing to refine treatment decisions in adults at borderline-to-intermediate estimated risk in whom the value of statin therapy is uncertain (11,12), and a CACS of zero is now widely regarded as a marker of low short-term risk that can support a more conservative management strategy (13).

Beyond age and sex, several traditional cardiovascular risk factors have been consistently associated with a higher coronary calcium burden, including diabetes mellitus (14-16), arterial hypertension and dyslipidemia (17,18), and tobacco use and obesity (19-21), although some of these associations, particularly that of body mass index (BMI), have been reported as inconsistent, or even paradoxical, across different

populations (20,21). A positive family history of premature coronary heart disease has likewise been shown to predict a higher prevalence and extent of CACS, independently of the Framingham risk score (22,23). Anatomical variants of the coronary tree, such as left or codominant circulation (24) and myocardial bridging of the left anterior descending artery (25,26), are additional structural features frequently reported on cardiac CT whose relationship with calcified plaque burden is less well characterized. Finally, in symptomatic patients presenting with chest pain, a CACS of zero has been used as a practical "gatekeeper" to exclude obstructive coronary disease with a high negative predictive value (27), underlining the potential dual role of calcium scoring in both asymptomatic risk stratification and symptomatic triage.

Despite this substantial international evidence base, data describing the distribution and clinical correlates of coronary artery calcium in Southeast European populations, including Albania, remain scarce. Patients referred for cardiac CT in everyday clinical practice present with a heterogeneous mix of indications, a routine cardiovascular check-up, suspected acute coronary syndrome, dyspnea, chest pain, or a family history of myocardial infarction, and it is unclear to what extent the associations established in large Western cohorts are reproduced in a real-world, single-center clinical population of this kind. The present study therefore aimed to describe the clinical, anthropometric, and coronary-anatomical characteristics of consecutive patients undergoing cardiac CT at a private hospital in Tirana, Albania, and to identify the factors independently associated with their coronary artery calcium score.

METHODS

Study design

This was a retrospective, single-center, cross-sectional study of consecutive patients who underwent non-contrast cardiac CT for coronary artery calcium scoring, in most cases combined with coronary CT angiography, at the private Hospital "Hygeia" in Tirana, Albania, over a three-month period (April-June 2026). The study was conducted in accordance with the ethical standards of the Declaration of Helsinki (28); the Hospital's Ethics Committee approved the retrospective analysis of anonymized clinical and imaging data, and the requirement for individual informed consent was waived given the retrospective, de-identified nature of the analysis. All personal identifiers, including patient names, were removed from the working dataset before statistical analysis.

Study population

Consecutive adult patients referred to the cardiology/radiology department for cardiac CT during the study period were eligible. Patients were referred for one of several indications: a routine cardiovascular check-up in an otherwise asymptomatic individual, chest pain, dyspnoea, a

family history of myocardial infarction, or clinical suspicion of an acute coronary syndrome. Patients with missing calcium-score data were excluded. A total of 111 patients constituted the final study population.

Data collection

For each patient the following variables were extracted from the clinical and imaging records: age (years), sex, weight (kg), height (cm), and calculated body mass index (BMI, kg/m2); presence of diabetes mellitus, arterial hypertension, and hypercholesterolemia as documented in the clinical record; smoking status (current smoker vs non-smoker) and, when applicable, the reported number of cigarettes smoked per day; and the clinical indication for the CT examination. From the CT data set we obtained the total coronary artery calcium score (CACS, Agatston units) and its conventional five-tier category (0; 1-10; 11-100; 101-400; >400) (4,7); the percentage luminal stenosis of the left anterior descending (LAD), left circumflex (LCx), and right coronary (RCA) arteries; coronary dominance (right, left, or codominant, defined according to the artery of origin of the posterior descending artery) [24]; the presence or absence of a myocardial bridge, defined as an intramyocardial, tunnelled segment of an epicardial coronary artery, most commonly the LAD (25,26); the presence of a fourth (accessory) coronary branch; and the diameter of the aortic root (mm).

Statistical analysis

Continuous variables are presented as mean ± standard deviation (SD) or, for markedly skewed variables, as median with interquartile range (IQR); categorical variables are presented as frequencies and percentages. Because the calcium-score distribution was highly right-skewed with a large proportion of zero values, patients were dichotomized into those with detectable coronary calcium (CACS>0) and those without (CACS=0) for bivariate comparisons; means were compared with the independent-samples t-test, non-normally distributed continuous variables with the Mann-Whitney U test, and categorical variables with the chi-square test. Spearman's rank correlation coefficient (rho) was used to assess the association between CACS and continuous variables (age, BMI, percentage arterial stenosis, aortic root diameter). To identify variables independently associated with calcium burden, a multivariable linear regression model was fitted using the natural logarithm of (CACS+1) as the dependent variable, with age, sex, BMI, diabetes, hypertension, hypercholesterolemia, and current smoking entered as independent variables; the log transformation was chosen to reduce the influence of the marked positive skew of the calcium score while retaining all patients, including those with a score of zero, in the analysis. A two-sided p value <0.05 was considered statistically significant. All analyses were performed using the IBM SPSS Statistics software package, version 22.0.

RESULTS

Of the 111 patients included (mean age 57.3±11.0 years; 61 [55.0%] men), the most frequent indication for cardiac CT was a routine cardiovascular check-up (47 patients, 42.3%), followed by suspected acute coronary syndrome (34, 30.6%), dyspnea (14, 12.6%), a family history of myocardial infarction (11, 9.9%), and chest pain (3, 2.7%; indication not recorded in 2 patients). Baseline demographic, anthropometric, and coronary-anatomical characteristics of the overall cohort are summarized in Table 1. Diabetes mellitus was present in 24.3% of patients, arterial hypertension in 53.2%, hypercholesterolemia in 54.1%, and 49.5% were current smokers. Right coronary dominance was observed in 81.1% of patients, left dominance in 17.1%, and a balanced (codominant) pattern in under 1%; a myocardial bridge, virtually always involving the LAD, was present in 26.1% of patients.

The mean total CACS was 38.2±86.5 Agatston units (median 0, IQR 0-43). Overall, 59 patients (53.2%) had a CACS of 0, 12 (10.8%) had minimal calcification (1-10), 30 (27.0%) had mild calcification (11-100), 9 (8.1%) had moderate calcification (101-400), and a single patient (0.9%) had extensive/severe calcification (>400) (Table 1).

Table 1. Demographic, anthropometric, risk-factor, and coronary-anatomical characteristics of the study population (n = 111)

Characteristic	**Value (n = 111)**
Age, years, mean ± SD	57.3 ± 11.0
Male sex, n (%)	61 (55.0)
Body mass index, kg/m², mean ± SD	28.6 ± 5.9
Diabetes mellitus, n (%)	27 (24.3)
Arterial hypertension, n (%)	59 (53.2)
Hypercholesterolemia, n (%)	60 (54.1)
Current smoker, n (%)	55 (49.5)
Clinical indication for CT, n (%)	
Routine cardiovascular check-up	47 (42.3)
Suspected acute coronary syndrome	34 (30.6)
Dyspnea	14 (12.6)
Family history of myocardial infarction	11 (9.9)
Chest pain	3 (2.7)

Coronary dominance, n (%)	
Right dominant	90 (81.1)
Left dominant	19 (17.1)
Codominant	1 (0.9)
Myocardial bridging (LAD), n (%)	29 (26.1)
Aortic root diameter, mm, mean ± SD	35.3 ± 4.1
LAD stenosis, %, mean ± SD	15.8 ± 23.4
LCx stenosis, %, mean ± SD	6.0 ± 12.3
RCA stenosis, %, mean ± SD	6.1 ± 12.4
Coronary artery calcium score (CACS), Agatston units	
Mean ± SD	38.2 ± 86.5
Median [IQR]	0 [0–43]
CACS category, n (%)	
0 (zero)	59 (53.2)
1–10 (minimal)	12 (10.8)
11–100 (mild)	30 (27.0)
101–400 (moderate)	9 (8.1)
>400 (extensive/severe)	1 (0.9)

BMI, body mass index; CACS, coronary artery calcium score; CT, computed tomography; IQR, interquartile range; LAD, left anterior descending artery; LCx, left circumflex artery; RCA, right coronary artery; SD, standard deviation.

Table 2 compares the characteristics of patients with detectable coronary calcium (CACS>0, n=52) with those of patients with a CACS of 0 (n=59). Patients with detectable calcium were significantly older (60.6±10.3 vs 54.3±10.8 years, p=0.002) and had a markedly higher prevalence of diabetes mellitus (44.2% vs 6.8%, p<0.001). A non-significant trend toward a higher prevalence of arterial hypertension (63.5% vs 44.1%, p=0.064) and hypercholesterolemia (63.5% vs 45.8%, p=0.094) was observed, while sex distribution, BMI, current smoking, and the presence of a myocardial bridge did not differ significantly between groups. As expected, percentage stenosis of all three major epicardial arteries was substantially higher in patients with detectable calcium (LAD 30.8±24.8% vs 2.6±10.8%; LCx 12.9±15.6% vs 0.2±1.3%; RCA 13.1±15.7% vs 0.2±1.3%; all p<0.001).

Table 2. Comparison of characteristics between patients with detectable (CACS>0) and undetectable (CACS=0) coronary artery calcium

Characteristic	CACS > 0 (n = 52)	CACS = 0 (n = 59)	p value
Age, years, mean ± SD	60.6 ± 10.3	54.3 ± 10.8	0.002
Male sex, n (%)	32 (61.5)	29 (49.2)	0.264
Body mass index, kg/m², mean ± SD	29.5 ± 6.1	27.8 ± 5.7	0.138
Diabetes mellitus, n (%)	23 (44.2)	4 (6.8)	<0.001
Arterial hypertension, n (%)	33 (63.5)	26 (44.1)	0.064
Hypercholesterolemia, n (%)	33 (63.5)	27 (45.8)	0.094
Current smoker, n (%)	28 (53.8)	27 (45.8)	0.383
Myocardial bridging, n (%)	12 (23.1)	17 (28.8)	0.638
LAD stenosis, %, mean ± SD	30.8 ± 24.8	2.6 ± 10.8	<0.001
LCx stenosis, %, mean ± SD	12.9 ± 15.6	0.2 ± 1.3	<0.001
RCA stenosis, %, mean ± SD	13.1 ± 15.7	0.2 ± 1.3	<0.001

Continuous variables compared with the independent-samples t-test or the Mann-Whitney U test as appropriate; categorical variables compared with the chi-square test. BMI, body mass index; CACS, coronary artery calcium score; LAD, left anterior descending artery; LCx, left circumflex artery; RCA, right coronary artery; SD, standard deviation.

Table 3. Spearman correlation coefficients between the coronary artery calcium score and continuous variables

Variable	Spearman rho	p value	n
Age, years	0.350	<0.001	111
Body mass index, kg/m²	0.118	0.219	111
LAD stenosis, %	0.833	<0.001	111
LCx stenosis, %	0.727	<0.001	107
RCA stenosis, %	0.744	<0.001	109
Aortic root diameter, mm	0.135	0.156	111

LAD, left anterior descending artery; LCx, left circumflex artery; RCA, right coronary artery. Sample sizes for LCx and RCA stenosis reflect missing values on 4 and 2 patients, respectively.

Spearman correlations between CACS and continuous variables are shown in Table 3. CACS correlated strongly with percentage stenosis of the LAD (rho=0.833, p<0.001), RCA (rho=0.744, p<0.001), and LCx (rho=0.727, p<0.001), moderately with age (rho=0.350, p<0.001), and not significantly with BMI (rho=0.118, p=0.219) or aortic-root diameter (rho=0.135, p=0.156).

Table 4. Multivariable linear regression model for the natural logarithm of (coronary artery calcium score + 1)

Variable	B (regression coefficient)	SE	p value
Intercept	-3.441	1.290	0.009
Age, per year	0.058	0.018	0.002
Male sex	1.290	0.394	0.002
Body mass index, per kg/m²	0.008	0.028	0.785
Diabetes mellitus	2.011	0.399	<0.001
Arterial hypertension	0.016	0.396	0.968
Hypercholesterolemia	0.535	0.336	0.115
Current smoking	0.285	0.383	0.458

Model R^2 = 0.421; adjusted R^2 = 0.382; n = 111. B, unstandardized regression coefficient; SE, standard error.

Table 5. Coronary artery calcium score and the proportion of patients with detectable calcium according to the clinical indication for computed tomography

Clinical indication	n	CACS, median [IQR]	CACS > 0, n (%)
Routine cardiovascular check-up	47	0 [0–0]	15 (31.9)
Suspected acute coronary syndrome	34	48.0 [0–120]	23 (67.6)
Dyspnoea	14	13.5 [0–29]	8 (57.1)
Family history of myocardial infarction	11	0 [0–4]	4 (36.4)
Chest pain	3	5.0 [0–41]	2 (66.7)

Kruskal-Wallis test across the five indication categories, p = 0.001 for CACS; chi-square test, p = 0.020 for the proportion of patients with CACS>0. CACS, coronary artery calcium score; IQR, interquartile range. Indication was not recorded for 2 patients, who are excluded from this table.

On multivariable linear regression of log-transformed CACS (Table 4), age (B=0.058 per year, p=0.002), male sex (B=1.290, p=0.002), and diabetes mellitus (B=2.011, p<0.001) remained independent predictors of a higher calcium burden after mutual adjustment, whereas BMI (p=0.785), hypertension (p=0.968), hypercholesterolemia (p=0.115), and current smoking (p=0.458) did not reach statistical significance. The model explained 42.1% of the variance in log-transformed CACS (adjusted R2=0.382).

Finally, calcium score and CAC positivity differed significantly according to the clinical indication for CT (Table 5; Kruskal-Wallis p=0.001 for CACS across indications; chi-square p=0.020 for the proportion with CACS>0). The highest median calcium score and the highest proportion of detectable calcium were observed among patients referred for suspected acute

coronary syndrome (median CACS 48, 67.6% CACS>0), among those presenting with dyspnoea (median CACS 13.5, 57.1% CACS>0), and among those presenting with chest pain (median 5, 66.7% CACS>0), while patients referred for a routine check-up had the lowest yield (median 0, 31.9% CACS>0).

DISCUSSION

In this cross-sectional analysis of 111 consecutive patients undergoing cardiac CT at a private hospital in Tirana, slightly over half had no detectable coronary artery calcium, and age, male sex, and diabetes mellitus emerged as the strongest independent correlates of a higher calcium burden, while BMI, hypertension, hypercholesterolemia, and smoking showed no independent association after adjustment. These findings are broadly consistent with, and help extend into a Southeast European clinical population, the associations that have been repeatedly described in large Western cohorts.

The proportion of patients with a CACS of zero in our cohort (53.2%) falls within the range reported in general clinical and screening populations of comparable age (7,8). The strong age-dependence of CACS observed here mirrors the well-documented, near-linear increase in the prevalence and extent of coronary calcification with advancing age described in MESA, where age was among the strongest single determinants of CACS across all race/ethnic groups (8). Similarly, the higher calcium burden in men than women, confirmed here as an independent predictor on multivariable analysis, supports the consistently reported two- to four-fold higher prevalence of coronary calcification in men at any given age, a difference attributed both to a later onset of atherosclerosis in premenopausal women and to sex-specific differences in coronary plaque composition (8,29).

Diabetes mellitus showed the strongest independent association with calcium burden in our model, reproducing one of the most consistent observations in the CAC literature (14-16). Patients with diabetes accumulate coronary calcium earlier and more extensively than non-diabetic individuals of comparable age, reflecting both a longer cumulative exposure to hyperglycemia-related vascular injury and a distinct pattern of medial, in addition to intimal, arterial calcification (14). Importantly, several cohorts have shown that CACS adds substantial incremental prognostic value over conventional risk scores specifically within the diabetic population (15,16), a relationship our findings support and that argues for a low threshold to consider calcium scoring in diabetic patients undergoing cardiac CT for any indication.

In contrast, BMI did not correlate with CACS in our cohort, either in univariable or multivariable analysis. This mirrors the genuinely inconsistent literature on obesity and coronary calcification: while several large cohorts, including the Coronary Artery Calcium Consortium, report a positive and graded association between BMI category and both the prevalence and mortality risk of CACS (19), other studies, particularly

those conducted in populations already referred for suspected coronary disease, describe null or even inverse relationships (20,21). Possible explanations include differential referral patterns, the competing contribution of visceral versus overall adiposity, and the fact that BMI alone poorly captures body composition (20,21). Our modest sample size and single-center referral pattern likely limit the power to detect a true, but probably small, independent effect of BMI once age, sex, and diabetes are accounted for.

Neither arterial hypertension, hypercholesterolemia, nor current smoking reached statistical significance as independent predictors of CACS in our multivariable model, despite each showing a directionally consistent, non-significant trend on univariable comparison. This should not be interpreted as evidence against a true biological association: hypertension and dyslipidemia are well-established contributors to coronary calcification in larger cohorts (17,18), and cigarette smoking has previously been linked to a higher subclinical atherosclerotic burden. The most probable explanation for our null findings is limited statistical power in a modestly sized, single-center sample, compounded by potential misclassification of self-reported smoking status and of treated hypertension or dyslipidemia, which may attenuate their cross-sectional association with a calcification process that reflects cumulative, rather than instantaneous, risk-factor exposure.

As expected from the pathophysiology of calcification as a marker of atherosclerotic plaque, CACS correlated strongly with percentage luminal stenosis in all three major epicardial territories, most strongly with the LAD. This mirrors the original histopathological validation of the Agatston method against plaque area (3) and is consistent with the LAD's typically greater absolute plaque burden and earlier disease onset compared with the circumflex and right coronary arteries in most population studies.

The distribution of calcium burden across clinical presentations in our cohort is clinically reassuring: patients referred for suspected acute coronary syndrome or chest pain had both the highest median CACS and the highest proportion of detectable calcium, while those undergoing a routine check-up, by definition a lower-risk group, had the lowest yield. This pattern is consistent with the established use of a CACS of zero as an effective "gatekeeper" to exclude obstructive disease in low-to-intermediate-risk symptomatic patients (27), and suggests that, even in this heterogeneous, real-world referral population, calcium scoring is being appropriately targeted toward patients in whom a positive result is more likely to be clinically meaningful. Nonetheless, nearly a third of patients referred for a routine check-up already had detectable calcium, underscoring the value of calcium scoring for opportunistic risk reclassification even in ostensibly asymptomatic individuals, in line with current guideline recommendations (11-13).

Coronary dominance and the presence of a myocardial bridge did not differ significantly

between patients with and without detectable calcium in our cohort. This is in keeping with the current understanding that both are, in general, congenital anatomical variants rather than direct correlates of atherosclerotic burden (24-26), although myocardial bridging has been associated in some series with relative protection against calcification and atherosclerosis specifically within the tunneled arterial segment, attributed to locally reduced wall shear stress under the muscle bridge (25,26). Whether this holds true in our population could not be formally tested given the small number of patients with both a bridge and detectable calcium in the corresponding segment.

Several limitations of the present study should be acknowledged. First, this was a retrospective, single-center, cross-sectional study with a relatively modest sample size (n=111), which limits statistical power, particularly for uncommon anatomical variants such as codominance, and precludes any causal or temporal inference; established, larger-scale risk models such as the original Framingham risk score and the pooled cohort equations remain the reference standard against which the incremental value of CACS should ultimately be judged (30,31). Second, clinical variables such as diabetes, hypertension, and hypercholesterolemia were extracted from existing clinical records rather than through a priori standardized definitions, and smoking status relied on self-report, both of which may introduce misclassification. Third, as a self-selected clinical, rather than population-based, cohort referred for cardiac CT for heterogeneous indications, our findings may not be directly generalizable to unselected, asymptomatic community populations, and the cost-effectiveness implications of expanding calcium-score testing in this setting were not assessed (32). Finally, percentage arterial stenosis was derived from routine clinical CT angiography reports rather than from a dedicated, blinded, quantitative core-laboratory analysis, and the log-linear regression model, while a pragmatic solution to the excess of zero values in the calcium-score distribution, cannot fully capture the zero-inflated nature of this outcome; more sophisticated approaches for zero-inflated or ordinal outcomes could be considered in future, larger studies. Despite these limitations, this study provides one of the first descriptions of the clinical and anatomical correlates of coronary artery calcium in a Southeast European clinical population and reproduces several of the key associations reported internationally, supporting the external validity of coronary calcium scoring as a risk-stratification tool in this setting.

CONCLUSION

In this cohort of patients undergoing cardiac CT at a private hospital in Tirana, Albania, older age, male sex, and diabetes mellitus were independently associated with a higher coronary artery calcium score, while traditional risk factors such as hypertension, hypercholesterolemia, smoking, and BMI showed no independent

association after adjustment. Calcium burden correlated strongly with the degree of coronary stenosis and appropriately tracked the clinical indication for testing, being highest among patients with suspected acute coronary syndrome or chest pain. These findings support the incorporation of coronary artery calcium scoring into cardiovascular risk assessment in this population, while highlighting the particular relevance of age, sex, and diabetes as key determinants to guide its clinical interpretation.

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Conflict of Interest Statement: The authors declare that they have no conflict of interest.

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