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ORIGINAL RESEARCH

Sex Differences in Atherosclerotic Coronary Artery Disease Patterns

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BACKGROUND: Sex differences in coronary artery disease (CAD) have been increasingly recognized, as women present with distinct clinical characteristics and outcomes compared with men. This study investigated the impact of sex on pathophysiological CAD patterns (focal versus diffuse) in stable patients undergoing percutaneous coronary interventions (PCI).

METHODS: We conducted a subanalysis of the PPG Global (Pullback Pressure Gradient Global Registry) study, a multicenter, prospective trial including 993 patients (236 [23.8%] women and 757 [76.2%] men) with hemodynamically significant CAD, defined as fractional flow reserve ≤0.80. The pullback pressure gradient metric categorized CAD patterns as focal or diffuse. Patient-reported outcomes were collected using the 7-item Seattle Angina Questionnaire. Optimal revascularization was defined as post-PCI fractional flow reserve ≥0.88.

RESULTS: Women were significantly older than men, with a mean age of 69.8±10.3 years compared with 67.0±10.1 years (P<0.001). Despite similar baseline fractional flow reserve (0.69±0.12 versus 0.67±0.11, P=0.093), women reported more severe symptoms compared with men, as reflected in the Seattle Angina Questionnaire-7 angina frequency score (mean 76.7±22.9 versus 81.5±20.3, P=0.002). Women exhibited a more focal CAD pattern (pullback pressure gradient 0.65±0.16 versus 0.61±0.16, P=0.001) and achieved higher post-PCI fractional flow reserve values (0.88±0.07 versus 0.87±0.07, P=0.02). Women undergoing PCI had a higher rate of optimal revascularization (54% versus 44%, P=0.01).

CONCLUSIONS: This study reveals clinically significant differences in CAD patterns between sexes, with women demonstrating a higher burden of angina, more focal disease distribution, and better physiological results after PCI.

Key Words: coronary artery disease ■ fractional flow reserve ■ pullback pressure gradient ■ Seattle Angina Questionnaire ■ sex differences

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CLINICAL PERSPECTIVE

What Is New?

- Women exhibited more focal coronary artery disease patterns, indicated by higher pullback pressure gradient, and achieved a higher rate of optimal percutaneous coronary intervention results.
- Although hemodynamic severity was comparable between sexes, women reported more severe symptoms, reflected by higher angina frequency scores on the Seattle Angina Questionnaire.

What Are the Clinical Implications?

- Women with hemodynamically significant coronary artery disease tend to have more focal disease, which responds more favorably to percutaneous coronary intervention.

Nonstandard Abbreviations and Acronyms

FFR	fractional flow reserve
PPG	pullback pressure gradient
SAQ-7	7-item Seattle Angina Questionnaire

Ischemic heart disease is the leading cause of death worldwide in both men and women.[1,2] Recent studies have revealed sex differences in the clinical presentation, natural history, and prognosis of coronary artery disease (CAD).[3–6] Understanding the impact of sex on CAD is critical for developing effective diagnostic and therapeutic strategies. Women typically present with CAD at an older age compared with men, frequently experience different symptoms, and have distinct risk factors.[5] The impact of these differences on outcomes, particularly following percutaneous coronary intervention (PCI), is an area of ongoing investigation.

A growing body of evidence suggests that women may exhibit a different pattern of atherosclerosis than men. Women are less likely to develop calcified disease than men and have more high-risk plaque features.[7,8] Additionally, fractional flow reserve (FFR) is higher in women than men, likely due to lower myocardial mass.[9–11] The pullback pressure gradient (PPG) is a novel metric that defines CAD patterns as focal versus diffuse disease based on coronary physiology.[12] The impact of sex on PPG and procedural outcomes among patients with hemodynamically significant CAD remains unknown. Thus, this study sought to bridge this gap in knowledge regarding sex differences in CAD patterns and their relevance to PCI outcomes.

METHODS

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Study Population and Procedures

PPG Global was a prospective, investigator-initiated, multicenter, international, and single-arm study identified at clinicaltrials.gov as NCT04789317. The design and primary results of the trial have been reported previously.[13,14] In brief, patients with hemodynamically significant CAD based on FFR ≤0.80 to be treated with PCI were eligible for inclusion. A full list of inclusion and exclusion criteria is provided in Table S1. Every participant gave written informed consent, and every site received approval from its local institutional review board.

Patients underwent a standardized invasive physiological assessment using a coronary pressure wire (PressureWire X, Abbott Vascular, Santa Clara, CA). The pressure wire was positioned in the distal coronary artery in a segment ≥2 mm in diameter and at least 15 mm beyond the most distal stenosis by visual estimation.[15] A pullback maneuver was performed manually at a constant speed during 20 to 30 seconds. When the pressure sensor reached the catheter tip, the pullback recording was stopped, and PPG was calculated onsite using CoroFlow software v3.5.1 (Coroventis Research AB, Uppsala, Sweden). The calculation of the PPG involves the integration of 2 parameters derived from the FFR pullback curves, specifically the maximal pressure gradient over 20% of the pullback duration and the extent of functional disease. The maximal gradient over 20% of the tracing is expressed in absolute FFR units, whereas the extent of disease is shown as the proportion of the vessel exhibiting pressure losses relative to the whole vessel length (ie, percentage of functional disease). The integration of these parameters results in a numerical value ranging from 0 to 1. PPG values nearing 1 are indicative of focal disease, and values approaching 0 identify diffuse CAD.[12] In cases undergoing PCI, the procedure was performed according to the operator's discretion. Following PCI, FFR was re-measured at the same anatomical location as before PCI. Optimal revascularization was defined as a post-PCI FFR ≥0.88.[16] Additionally, coronary flow reserve (CFR) and the index of microvascular resistance measurements before and after PCI were encouraged. CFR was defined as the ratio between the mean transit time at rest and during maximal hyperemia.[17] The index of microvascular resistance was calculated as distal coronary pressure multiplied by mean transit time at maximal hyperemia[18] Microvascular resistance reserve was calculated using the values of CFR, FFR, aortic pressure, and coronary pressure as previously described.[19]

Core Laboratory Analysis

All angiographic and physiologic data underwent centralized, independent review at the CoreAalst core laboratory (Aalst, Belgium). Quantitative coronary angiography was performed using 2 views applying 3-dimensional quantitative coronary angiography with CAAS 8.2 software (Pie Medical Imaging, Maastricht, the Netherlands). Offline evaluation of physiology tracings was conducted using CoroFlow software (Coroventis Research AB, Uppsala, Sweden). The physiology core laboratory assessed each recording for quality following predefined criteria, including an examination of the aortic and coronary pressure tracings for any signs of waveform distortion or aortic pressure ventricularization.

Patient Symptoms and Clinical Outcomes

Patient symptoms before the procedure were assessed using the 7-item Seattle Angina Questionnaire (SAQ-7). The SAQ-7 assesses 3 dimensions of CAD from the patient's perspective: physical limitation, angina frequency, and quality of life. Higher scores indicate better health status.[20] The presence of angina was defined as an SAQ score < 100 in the angina frequency domain.

Target vessel failure was defined as cardiac death, target-vessel myocardial infarction, and ischemia-driven target vessel revascularization. Troponin measurements were collected from 4 to 24 hours after PCI. Results are reported as a normalized ratio between the value and its established normal threshold specific to each local troponin assay, expressed as multiples beyond the upper limit of normal (ULN) and specifically categorized as ≥5 times ULN, ≥35 times ULN, and ≥70 times ULN. Periprocedural myocardial injury was defined as an elevation of troponin >5 times ULN without additional criteria for periprocedural myocardial infarction.[21] The cutoff values of troponin were based on the available troponin kits at the participating sites, and sex-specific cutoffs were used when applicable (Table S2). Periprocedural myocardial infarction was defined according to the Fourth Universal Definition of Myocardial Infarction.[22] Bleeding events were defined as those that met the Bleeding Academic Research Consortium definition type 2, 3, 4, and 5.[23]

Statistical Analysis

Analyses were performed using R version 4.3.1 (R Foundation for Statistical Computing, Vienna, Austria)

Table 1. Baseline and Clinical Characteristics Stratified by Sex

Variable	Overall	Women	Men	*P* value
Number of patients	993	236	757	
Age, y, mean±SD	67.7±10.2	69.8±10.3	67.0±10.1	<0.001
Body mass index, kg/m^2 (%), mean±SD	27.0±8.9	26.5±5.0	27.2±9.8	0.245
Dyslipidemia, n (%)	727 (73.2)	178 (75.4)	549 (72.5)	0.427
Hypertension, n (%)	694 (69.9)	174 (73.7)	520 (68.7)	0.164
Diabetes, n (%)	292 (29.4)	62 (26.3)	230 (30.4)	0.259
Current smoking, n (%)	164 (16.5)	23 (9.7)	141 (18.6)	0.002
Prior PCI for nontarget vessel, n (%)	277 (27.9)	45 (19.1)	232 (30.6)	0.001
Prior PCI for target vessel, n (%)	118 (11.9)	22 (9.4)	96 (12.7)	0.208
Prior MI, n (%)	197 (19.8)	34 (14.4)	163 (21.5)	0.021
Peripheral artery disease, n (%)	61 (6.1)	15 (6.4)	46 (6.1)	0.999
Clinical presentation, n (%)				0.106
Non–ST-segment–elevation MI	57 (5.8)	15 (6.4)	42 (5.6)	
Unstable angina	53 (5.3)	15 (6.4)	38 (5.0)	
Stable angina	883 (88.9)	206 (87.3)	677 (89.4)	
Symptom (stable angina), n (%)*				0.050
Asymptomatic	119 (13.5)	19 (9.2)	100 (14.8)	
Silent ischemia†	141 (16.0)	27 (13.1)	114 (16.9)	
CCS I	304 (34.5)	70 (34.0)	234 (34.7)	
CCS II	223 (25.3)	59 (28.6)	164 (24.3)	
CCS III	76 (8.6)	25 (12.1)	51 (7.6)	
CCS IV	18 (2.0)	6 (2.9)	12 (1.8)	

For patients with multivessel interrogation, the lowest pullback pressure gradient value was used for the patient-level analysis. CCS indicates Canadian Cardiovascular Society Angina Score; MI, myocardial infarction; and PCI, percutaneous coronary intervention.

*As assessed by the treating physician.

†Defined as a positive functional noninvasive test in an asymptomatic patient.

employing standard statistical techniques; applicable tests were 2 tailed, and $P<0.05$ was considered statistically significant. Normality of continuous variables was assessed using the Shapiro–Wilk test and visual inspection of histograms. For normally distributed data, comparisons were made using *t* tests, whereas nonnormally distributed data would have been compared using nonparametric tests. Continuous and categorical data are presented as mean±SD and number (percentage), respectively. Univariate and multivariable regression analyses assessed the association between PPG and clinical characteristics. Analyses were adjusted by age, sex, body mass index, dyslipidemia, hypertension, diabetes, prior history of myocardial infarction, peripheral artery disease, and smoking status.

RESULTS

Patient Demographics and Procedural Data

Overall, 993 patients (1044 vessels) were included in the analysis, comprising 236 (23.8%) women (251 vessels) and 757 (76.2%) men (793 vessels). The study flow chart is shown in Figure S1. Table 1 shows baseline clinical characteristics stratified by sex. Women were significantly older than men, with a mean age of 69.8±10.3 years compared with 67.0±10.1 years ($P<0.001$). Women were less likely to be active smokers (9.7% versus 18.6%, $P=0.002$). Women had a lower percentage of prior PCI (19.1% versus 30.6%, $P=0.001$) and prior myocardial infarction (14.4% versus 21.5%, $P=0.021$). Recruitment stratified by regions is shown in Table S3. There were no differences in the regional representation of men versus women (Table S4).

Women reported more severe symptoms than men. On the baseline SAQ-7, women reported greater physical limitation (mean 70.9±29.5 versus 80.9±25.1, $P<0.001$), more frequent angina (mean 76.7±22.9 versus 81.5±20.3, $P=0.002$), and worse quality of life (mean 51.8±29.4 versus 57.8±29.2, $P=0.006$; Figure 1). Sex differences in each component of SAQ-7 are shown in Figure 2. The differences in medication usage between sexes are shown in Table S5. Calcium channel blockers were prescribed more frequently to women (40.3% in women and 29.1% in men, $P=0.002$).

Table 2 shows lesion and procedural characteristics. The left anterior descending artery was the most frequently assessed vessel (71.2%). Minimum lumen diameter and reference vessel size were smaller in women than in men. Diameter stenosis and lesion length were similar between sexes. No other significant differences were observed in the baseline angiographic characteristics between groups.

Coronary Physiology and CAD Patterns

Mean FFR at baseline was 0.68±0.12 and did not differ between women and men (0.69±0.12 versus 0.67±0.11, $P=0.093$; Table 3). The assessment with PPG revealed

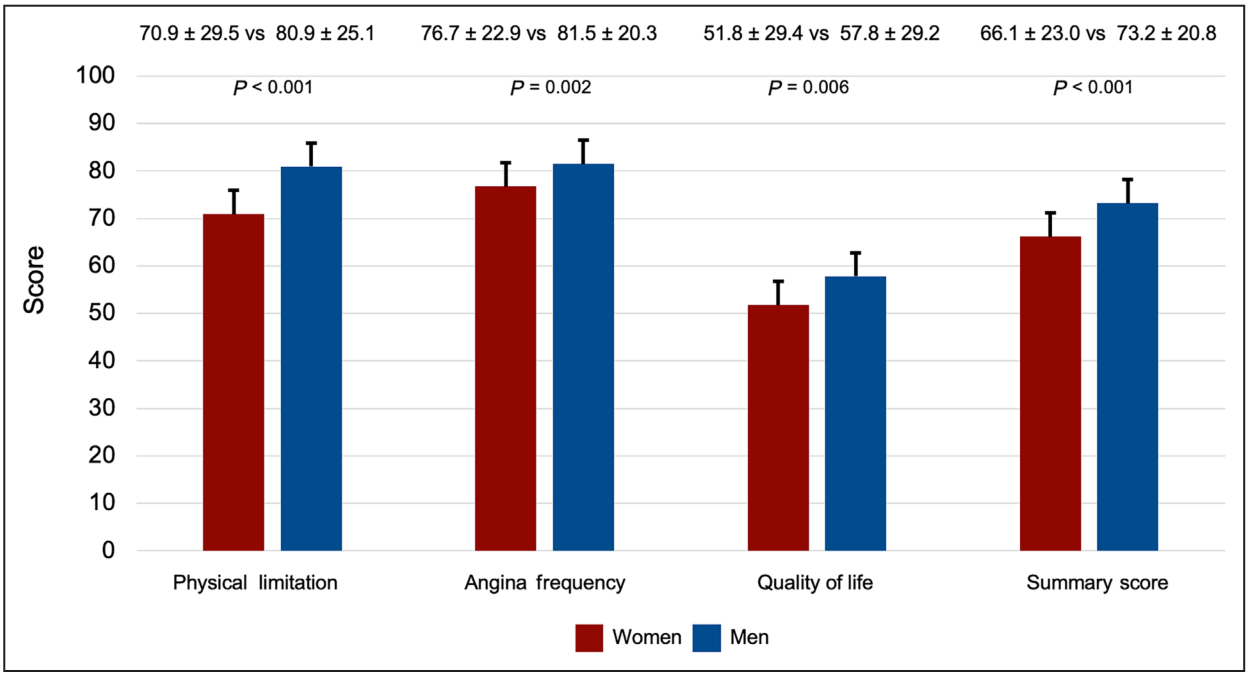

Figure 1. Symptoms at baseline assessed by the SAQ-7 stratified by sex.
The bar charts show the scores of SAQ-7 before PCI. Each pair of bars presents the mean score of the physical limitation, angina frequency, quality of life domain, and the mean summary score stratified by sex (from left to right). PCI indicates percutaneous coronary intervention; and SAQ-7, 7-item Seattle Angina Questionnaire.

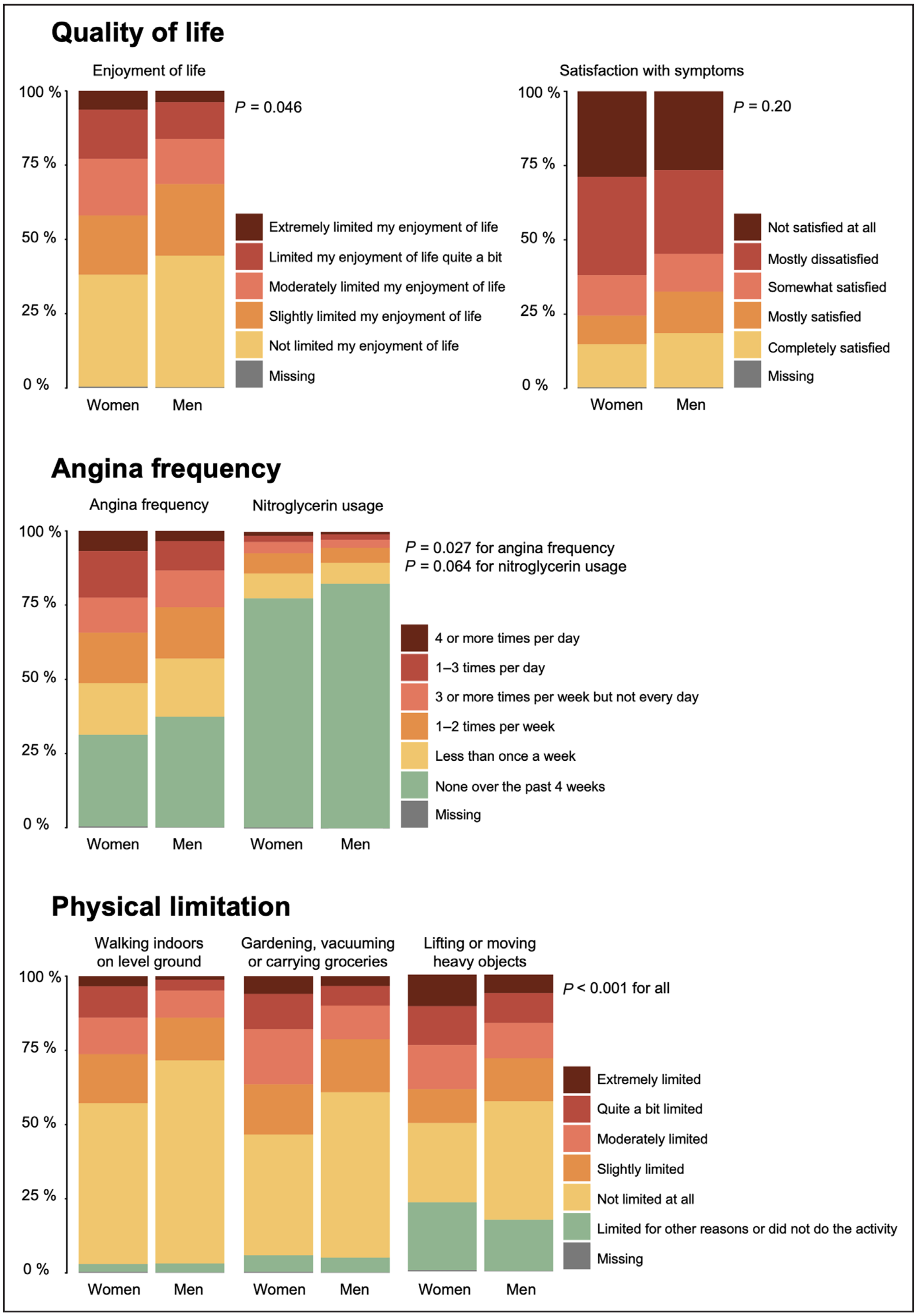

Figure 2. Sex differences in each component of SAQ-7.
Sex differences in each component of SAQ-7. **(Top)** Quality of life domain. **(Middle)** Angina frequency domain. **(Bottom)** Physical limitation domain. SAQ-7 indicates 7-item Seattle Angina Questionnaire.

that women exhibited a more focal pattern of CAD than men (PPG 0.65±0.15 versus 0.61±0.16, *P*=0.002). Women exhibited less extensive pressure losses along the vessel (43%±12 versus 46%±12, *P*<0.001; Table 3) but had a similar maximal translesional pressure gradient compared with men (0.23±0.15 FFR units versus 0.23±0.15 FFR units, *P*=0.768; Table 3). Figure 3 shows the distribution of PPG stratified by sex. PPG was independently associated with sex after adjustment by clinical characteristics (Table S6).

Table 2. Angiographic and Procedural Characteristics Stratified by Sex

Variable	Overall	Women	Men	*P* value[†]
Number of vessels	1044	251	793	
Vessel, n (%)				0.808
Left anterior descending artery	757 (72.5)	178 (70.9)	579 (73.0)	
Left circumflex artery	123 (11.8)	31 (12.4)	92 (11.6)	
Right coronary artery	164 (15.7)	42 (16.7)	122 (15.4)	
Serial lesions*, n (%)	212 (20.3)	46 (18.4)	166 (21.0)	0.432
Tortuosity[†], n (%)	115 (11.0)	31 (12.4)	84 (10.6)	0.509
Minimal lumen diameter pre-PCI, mm, mean±SD	1.49±0.51	1.41±0.47	1.51±0.52	0.011
Diameter stenosis (%), mean±SD	50.1±14.1	50.6±14.5	50±13.2	0.539
Reference vessel diameter pre-PCI, mm, mean±SD	2.65±0.57	2.56±0.52	2.67±0.58	0.007
Lesion length, mm, mean±SD	20.3±12.1	19.8±12.2	20.5±12.1	0.439
Vessels undergoing PCI, n (%)	890 (85.2)	221 (88.4)	669 (84.3)	<0.001
Number of stents, mean±SD	1.14±0.37	1.14±0.38	1.14±0.37	0.753
Stent length (mm), mean±SD	32.4±16.6	31.4±16.0	32.8±16.8	0.293
Stent diameter (mm), mean±SD	3.04±0.44	2.92±0.42	3.08±±0.44	<0.001
Intracoronary imaging PCI, n (%)	395 (44.4)	100 (45.0)	295 (44.2)	0.880
Predilatation (%), n (%)	780 (87.7)	194 (87.8)	586 (87.7)	1.000
Postdilatation (%), n (%)	662 (74.5)	163 (73.8)	499 (74.8)	0.823
Minimal lumen diameter post-PCI, mm, mean±SD	2.75±0.52	2.65±0.49	2.79±0.53	0.001
Reference vessel diameter post-PCI, mm, mean±SD	2.72±0.55	2.61±0.47	2.76±0.57	0.001

PCI indicates percutaneous coronary intervention.
*Serial lesions were site-reported based on angiography.
[†]One or more bends of 90° or more, or 3 or more bends of 45° to 90° proximal of the diseased segment.

Additional microvascular assessment was performed in 248 patients (68 women and 180 men) before PCI. CFR was numerically lower in women than in men (2.08±1.00 versus 2.51±1.37, $P=0.15$), with a similar prevalence of concomitant coronary microvascular disease defined by microvascular resistance reserve (≤3.0: 45% versus 32%, $P=0.064$) and index of microvascular resistance (>25: 18% versus 21%, $P=0.720$).

In-Hospital Outcomes Among the Patients Who Underwent PCI

A total of 855 patients (644 men and 211 women) underwent PCI. The use of intracoronary imaging was comparable between women and men (45.0% versus 44.2%, $P=0.88$). Women underwent PCI with significantly smaller stent diameter (2.92 mm±0.42 versus 3.08±0.44 mm, $P<0.001$). Although baseline FFR was not different between sexes, women achieved higher post-PCI FFR (0.88±0.07 versus 0.87±0.07, $P=0.02$), with a higher proportion of women achieving an optimal post-PCI FFR ≥0.88 (54% versus 44%, $P=0.016$, Figure 4).

The rates of periprocedural injury or myocardial infarction were not statistically different between the sexes. Specifically, 39.8% of women experienced periprocedural myocardial injury compared with 35.4% of men ($P=0.284$). Similarly, the incidence of myocardial infarction was 6.2% for women and 8.2% for men ($P=0.407$; Table S7).

DISCUSSION

It is well recognized that studies of CAD often include a higher proportion of male patients compared with female patients. This imbalance may reflect sex-related differences in disease prevalence, clinical presentation, and diagnostic pathways. Consistent with prior reports, our study also demonstrated a predominance of male patients among those with hemodynamically significant CAD. Nevertheless, the results of this study underscore notable sex differences in CAD patterns and outcomes following PCI. Key findings include: (1) women, despite having a similar baseline FFR to men, reported more symptoms, greater physical limitations, and lower quality of life; (2) women exhibited more focal disease, as indicated by a higher PPG, than men; (3) after PCI, women achieved higher FFR values and had a greater rate of optimal PCI compared with men; and (4) the incidence of myocardial injury and periprocedural complications was similar between sexes.

Table 3. Physiological Characteristics Stratified by Sex

Variable	Overall	Women	Men	*P* value
Pre-PCI				
Number of vessels	1044	251	793	
FFR, mean±SD	0.68±0.12	0.69±0.12	0.67±0.11	0.093
PPG, mean±SD	0.62±0.16	0.65±0.15	0.61±0.16	0.002
Maximal pressure gradient, mean±SD	0.62±0.16	0.65±0.15	0.61±0.16	0.002
Extent of disease (%), mean±SD	45.3±12.1	42.5±12.1	46.2±12.0	<0.001
Maximal PPG over 20mm	0.23±0.15	0.23±0.15	0.23±0.15	0.768
Pd/Pa, mean±SD	0.81±0.14	0.78±0.18	0.83±0.12	0.014
CFR, mean±SD*	2.39±1.29	2.08±1.00	2.51±1.37	0.015
IMR, mean±SD*	20.9±12.7	20.4±11.4	21.0±13.2	0.748
MRR, mean±SD*	4.02±2.54	3.78±2.50	4.11±2.56	0.350
Post-PCI				
Number of vessels	890	222	668	
FFR, mean±SD	0.87±0.07	0.88±0.07	0.87±0.07	0.021
Maximal pressure gradient, mean±SD	0.06±0.03	0.06±0.03	0.06±0.03	0.220
Extent of disease (%), mean±SD	34.8±15.6	33.5±14.4	35.2±16.0	0.181
Pd/Pa, mean±SD	0.92±0.10	0.89±0.15	0.93±0.05	0.005
CFR, mean±SD†	3.19±1.93	2.85±1.78	3.34±1.97	0.100
IMR, mean±SD†	17.7±12.0	16.9±13.5	18.0±11.3	0.570
MRR, mean±SD†y	5.41±14.9	7.61±26.4	4.41±2.67	0.174
Delta FFR, mean±SD	0.20v0.13	0.20±0.14	0.20±0.13	0.719
Delta CFR, mean±SD	0.77±1.84	0.70±1.56	0.81±1.96	0.704
Delta IMR, mean±SD	−3.49±12.4	−3.37±11.0	−3.55±13.1	0.933
Delta MRR, mean±SD	1.50±14.9	3.91±25.8	0.34±2.76	0.144

CFR indicates coronary flow reserve; FFR, fractional flow reserve; IMR, index of microvascular resistance; MRR, microvascular resistance reserve; PCI, percutaneous coronary intervention; Pd/Pa, distal coronary pressure to aortic pressure ratio; and PPG, pullback pressure gradient.
*Measurements were available in 248 patients.
†Measurements were available in 184 patients.

Women presenting with stable chest pain typically exhibit less atherosclerotic plaque of all subtypes compared with men.[24] Women were shown to have lower coronary calcium scores than men.[7] Despite this, women often display more plaque-vulnerability characteristics identified by optical coherence tomography.[8] Interestingly, earlier intravascular ultrasound studies have reported similar plaque burden, eccentricity, and calcium deposition between men and women.[25] The differences between studies may reflect variations in both methodologies and study population; nonetheless, most studies agree that there are sex-specific differences in atherosclerotic patterns.

This study offers new insights by highlighting differences between sexes in hemodynamic patterns (focal versus diffuse). Our analysis demonstrated that women exhibited a more focal pattern of CAD, indicated by higher PPG values. Despite similar FFR values, women had a lower CFR than men. This suggests that more focal lesions led to greater separation losses, which reduced CFR significantly more in women than in men. Alternatively, the smaller epicardial vessels in women may have contributed to a lesser increase in flow, further lowering CFR.[26] Fairbairn et al previously reported that coronary vessel size in women was ~20% smaller than in men.[27]

Previous studies in patients with intermediate coronary artery stenosis have suggested that women exhibit higher FFR values compared with men.[9–11] In the present study, FFR at baseline was similar between women and men. This apparent discrepancy can be attributed to our study's inclusion criteria, which selected patients with hemodynamically significant CAD (FFR ≤0.80). PPG has been shown to predict the results of revascularization in terms of flow improvement.[14] In this study, women had significantly higher PPG than men, leading to better functional results after PCI. Specifically, women achieved higher post-PCI FFR values compared with men (0.88±0.07 versus

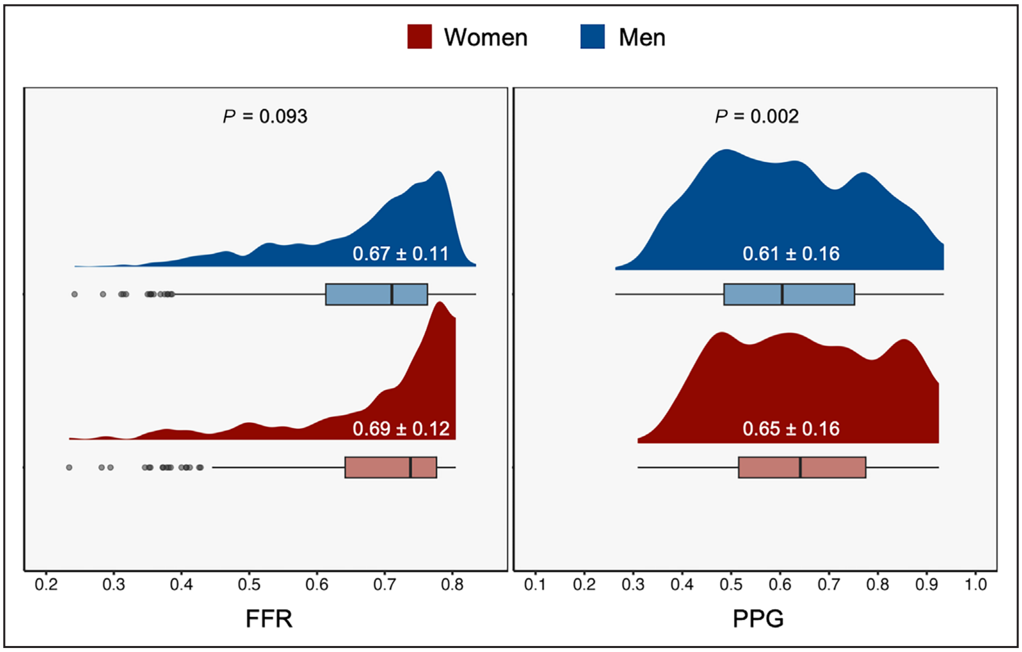

Figure 3. Differences in physiological assessment between sexes.
(Left) The distribution of pre-PCI FFR value stratified by sex. **(Right)** The distribution of PPG stratified by sex. FFR indicates fractional flow reserve; PCI, percutaneous coronary intervention; and PPG, pressure pullback gradient.

0.87±0.07, *P*=0.021). Post-PCI FFR has been linked to clinical outcomes, with higher post-PCI values associated with improved prognosis. Hwang et al. reported that in a study of >5000 patients, each 0.01 decrease in post-PCI FFR was associated with a 4% increase in the risk of target vessel failure.[28]

These findings underscore the need for a better understanding of the presentation and outcomes of CAD in women. The higher rates of angina and physical limitation reported by women, despite similar flow-limiting conditions, suggest a potential gap in the understanding of how CAD affects women. Future research should focus on elucidating the biological and psychosocial factors contributing to the observed sex differences in CAD patterns and presentation.

Study Limitations

First, this study is a post hoc analysis of the PPG Global trial, which included patients with significant CAD. Therefore, the results cannot be extrapolated to patients with non-flow-limiting lesions. Second, our focus was on vessel hemodynamics, and we did not provide complementary information regarding plaque morphology. Additionally, the study reports only in-hospital clinical outcomes, and longer-term follow-up will be necessary to determine how these findings translate after the procedure. Third, we used post-PCI FFR as a surrogate metric for optimal revascularization. Fourth, information regarding the medication dose has not been collected. Fifth, the percentage of women enrolled in this study was relatively low, which might reduce the power to detect the differences in outcomes.[29] Finally, we provide only baseline data; the 1-year clinical outcome follow-up is ongoing.

CONCLUSIONS

This study shows significant sex differences in CAD patterns and outcomes in patients with hemodynamically significant lesions. Our findings suggest that women tend to present with more focal disease, as indicated by higher PPG, compared with men who exhibit a more diffuse disease pattern. Despite having similar baseline FFR, women reported more severe symptoms and greater physical limitations than men. After PCI, women demonstrated better physiological outcomes, with higher post-PCI FFR and a higher rate of optimal revascularization. These findings underscore the need for a more tailored approach to the diagnosis and treatment of CAD in women, considering both physiology and symptoms. Future research should focus on further exploring the underlying mechanisms behind these sex differences and

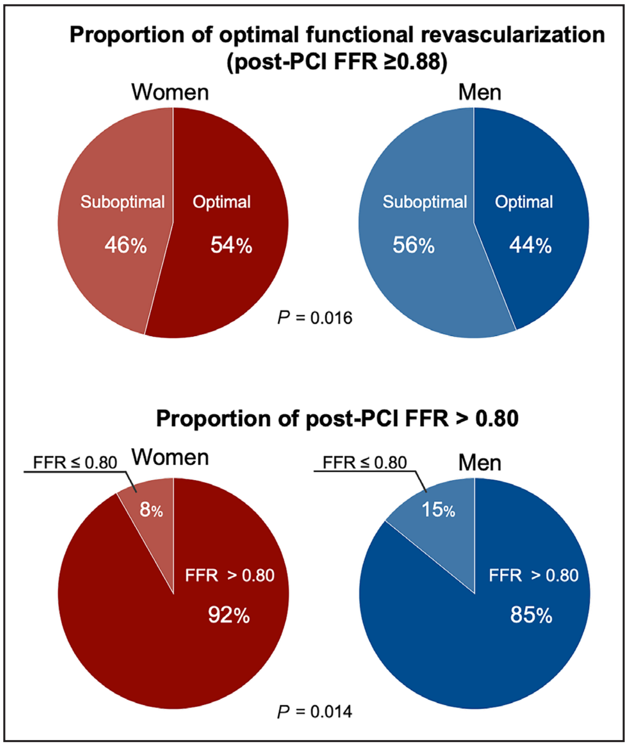

Figure 4. The proportion of optimal and suboptimal PCI results stratified by sex.

The upper pie charts present the proportion of optimal PCI results. Optimal PCI was defined as a post-PCI FFR ≥0.88. The lower pie charts show the proportion of post-PCI FFR>0.80. FFR indicates fractional flow reserve; and PCI, percutaneous coronary intervention.

developing strategies to optimize treatment outcomes for women with CAD.

ARTICLE INFORMATION

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Supplemental Material

Tables S1–S7
Figure S1

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