Abstract Submission Form

The Women's Heart Center Program Committee is accepting abstract submission forms through **August 16, 2024**. Completed forms should be emailed to WHC@TheChristHospital.com.

Abstract submissions should be gender- and sex-specific research pertaining to one of the program topics outlined below.

The Program Committee wishes to encourage young scientific investigators and will reward up to 4 abstracts/posters submitted by presenters considered early career (definition provided below). First place will receive $1000, second place will receive $500, and two honorable mentions will each receive $250.

The presenting author will be sent an email with the status of the submission by **August 30, 2024**. If your abstract is accepted, your notification will contain complete presentation information. However, please note the following:

- All human subject research must conform to the principles of the Declaration of Helsinki of the World Medical Association.
- The presenting author should be able to provide documentation of IRB approval if requested.
- The Program Committee is unable to reimburse presenters for travel, hotel, or per diem expenses.
- Submission of an abstract constitutes a commitment by the presenting author (or designee) to present in-person at the symposium on October 11, 2024, during the following times:
    - Registration & Networking: 7:00 – 8:00 am
    - Networking Lunch: 12:00 – 1:00 pm
    - Poster Session Award Announcement: 3:40 – 4:00 pm
- All accepted abstract presenters must register for the symposium via Eventbrite and pay the applicable registration fees (trainees and invited speakers will have the registration fee waived).
- If an author wishes to withdraw an abstract, please email WHC@TheChristHospital.com.

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Disclosures: Please list any relevant financial disclosures.

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Abstract Topic (must be gender- or sex-specific)

☐ Preventative cardiology ☐ General cardiology ☐ Interventional cardiology
☐ Heart failure ☐ Cardio-oncology ☐ Cardio-obstetrics
☐ Electrophysiology ☐ Cardiovascular Imaging ☒ Coronary Microvasculature
☐ Social Determinants of Health ☐ Mental Health ☐ Precision Medicine

Title:

Increased Epicardial Spasm in ANOCA Patients with Diagnosed Migraines

Background:

Patients with Angina and Non-Obstructive Coronary Artery Disease (ANOCA) present with severe angina symptoms despite non-obstructive coronary artery findings. Coronary microvascular and/or vasomotor dysfunction (CMVD) is the primary pathophysiological mechanism for ANOCA patients. Migraines, a neurological disorder characterized by recurrent headaches, shares pathophysiological links with endothelial dysfunction that can contribute to CMVD; however, the impact of migraines in ANOCA patients has been largely unexplored.

Purpose: To compare angina presentation, CMVD prevalence, and clinical characteristics between ANOCA patients with a history of medically diagnosed migraines and those without.

Methods:

We conducted a prospective registry-based cohort study of ANOCA patients (defined as angina with <50% stenosis in the major epicardial vessels) who underwent coronary functional angiography (CFA). Migraines were considered for documented medical diagnosis or prescribed migraine medications. Angina was assessed using the Duke Activity Status Index (DASI), Seattle Angina Questionnaire-7 (SAQ-7), University of California Shortness of Breath Questionnaire (UCSD SOB), and Perceived Stress Scale (PSS). CMVD diagnoses (endothelial dependent, independent, and epicardial spasm) based on CFA were compared.

Results:

Among the 394 ANOCA patients, 86 had migraines with a median age of 53 (IQR: 44,64) and were younger than the 308 ANOCA patients without migraines (Median: 59, IQR: 50,67; p=0.003). The migraine group was 94% female compared to 86% in the ANOCA patients without migraines (p=0.040), primary comparisons are summarized in Table 1. Patients with migraines had a higher prevalence of vasospastic angina (90%, p=0.034), had more severe angina as measured via SAQ-7 (Median: 24.3, IQR: 9.7,38.3; p<0.001), and had worse shortness of breath as measured via UCSD-SOB (Median: 42, IQR: 31,66; p=0.003). On CFA, patients with migraines had a lower proportion of endothelial independent CMD (49% vs 67%, p=0.002) and significantly more epicardial spasm (42% vs 29%, p=0.022).

Conclusions:

ANOCA patients with diagnosed migraines have a higher prevalence of vasospastic angina, as well as more severe angina and shortness of breath than those without. There is a higher prevalence of epicardial spasm in patients with diagnosed migraines. These findings are consistent with theories linking migraines and ischemia; future studies should explore these relationships further.

Tables/Figures/Graphics:

Table 1. Results	ANOCA Without Migraines (N= 308)	ANOCA + Diagnosed Migraines (N= 86)	p-value
Demographics			
Age, years (median, IQR)	59 (50, 67)	53 (44, 64)	**0.003**
Female (N,%)	257 (86)	79 (94)	**0.040**
Race/Ethnicity			
White (N,%)	259 (84)	73 (85)	0.907
Black (N,%)	36 (12)	10 (12)	0.980
Hispanic (N,%)	5 (2)	3 (4)	0.380
BMI, kg/m^2 (median, IQR)	29.5 (25.1, 35.5)	31.4 (24.3, 35.6)	0.119
Clinical Characteristics			
Hypertension (N,%)	213 (69)	58 (67)	0.762
Hyperlipidemia (N,%)	291 (94)	83 (97)	0.585
Diabetes (N,%)	65 (21)	16 (91)	0.612
HFpEF (N,%)	55 (18)	20 (23)	0.260
Prescribed Migraine Medications (N, %)		69 (80)	
Angina + Validated Questionnaire Scores			
Vasospastic Angina (N,%)	245 (80)	77 (90)	**0.034**
Microvascular Angina (N,%)	260 (84)	75 (87)	0.521
DASI[1] (0-58.2) (mean ± SD)	33.5 ± 13.3	31.0 ± 13.9	0.171
SAQ7[1] (0-100), (median, IQR)	35 (19.4, 50)	24.3 (9.7, 38.3)	**<0.001**
UCSD SOB[2] (0-120), (median, IQR)	36 (18,55)	42 (31,66)	**0.003**
PSS[2] (0-40) (median, IQR)	13 (10, 18)	13 (10, 17)	0.586
CMD Diagnosis			
CFR (Mean, IQR)	2.1 (1.8, 2.7)	2.4 (1.9, 2.8)	0.125
Endothelial Independent CMD (N,%)	183 (67)	40 (49)	**0.002**
Endothelial Dependent CMD (N,%)	143 (53)	40 (50)	0.685
Epicardial Spasm (N,%)	89 (29)	36 (42)	**0.022**
Any CFT Abnormality (N,%)	261 (85)	72 (84)	0.187

1. Higher scores = better functionality/quality of life; 2. Higher scores = worse functionality/quality of life
BMI: Body Mass Index; HFpEF: Heart Failure with Preserved Ejection Fraction; DASI: Duke Activity Status Index; SAQ7: Seattle Angina Questionnaire; UCSD SOB: University of California Shortness of Breath; PSS: Perceived Stress Scale; CFR: Coronary Flow Reserve; CMD: Coronary Microvascular Dysfunction; SD: Standard Deviation; Medians and Interquartile range (IQR) presented for non-normally distributed data compared via Wilcoxon rank-sum tests; proportions were compared via chi-squared tests and means were compared via t-tests.