

baseline differences in LVMI (ANCOVA) that included an interaction term between baseline LVMI sub-group and treatment. The effect of empagliflozin on 6-month change in LVMI was significantly different between patients with a baseline LVMI ≥ 60 g/m² and those whose LVMI was < 60 g/m² (Pinteraction=0.0064). The adjusted difference between those randomized to empagliflozin and those assigned placebo was -0.46 g/m² (95% CI: -3.44 g/m², 2.52 g/m², P=0.76) and -7.26 g/m² (95% CI: -11.40 g/m², -3.12 g/m², P=0.0011) in the LVMI < 60 g/m² and LVMI ≥ 60 g/m² subgroups, respectively. These associations persisted following multivariate adjustment for baseline characteristics with adjusted differences of 0.59 g/m² (95% CI: -3.01 g/m², 4.19 g/m², P=0.74) in the LVMI < 60 g/m² group and -7.03 g/m² (95% CI: -11.06 g/m², -2.99 g/m², P=0.001) in the LVMI ≥ 60 g/m² group (Pinteraction=0.0054). No significant associations were found between baseline LVMI and 6-month change in LV end systolic volume-indexed (Pinteraction=0.086), LV end diastolic volume-indexed (Pinteraction=0.34), or LV ejection fraction (Pinteraction=0.15).

CONCLUSION: Patients with larger LVMI at baseline experienced substantially greater cardiac reverse remodeling benefits with empagliflozin. The effect baseline LV mass has on the benefits derivable from SGLT2i therapies warrants further investigation.

P039
ROLE OF SEX AND GENDER IN DEVELOPMENT OF METABOLIC SYNDROME: A PROSPECTIVE COHORT STUDY

P Alipour, Z Azizi, V Raparelli, C Norris, A Kautzky-Willer, K Kublickiene, M Trinidad Herrero, K El Emam, P Vollenweider, M Preisig, C Clair, L Pilote

Lasalle, Québec

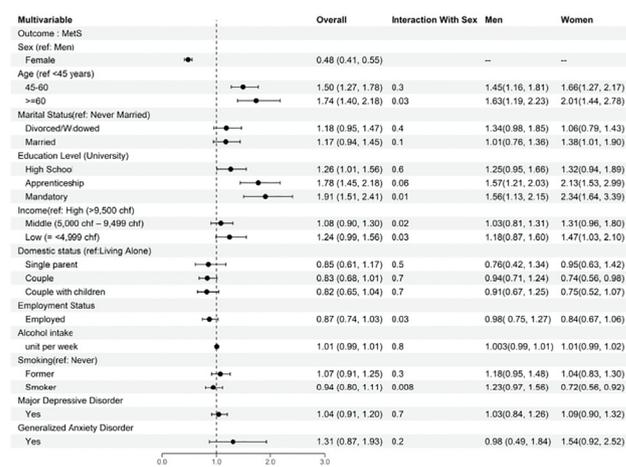
BACKGROUND: The burden of metabolic syndrome (MetS) and its components has been increasing mainly amongst male individuals. Nevertheless, clinical outcomes related to MetS (i.e., cardiovascular diseases), are worse among females. Whether these sex differences in the components and sequelae of MetS are influenced by psycho-socio-cultural factors (gender) is a matter of debate. Therefore, the purpose of this study was to determine the association between gender-related factors and the development of MetS, and to assess if the magnitude of the associations vary by sex.

METHODS AND RESULTS: Data from the ColaUS/PsyColaUS study, a prospective population-based cohort of 6,734 middle-aged participants in Lausanne (Switzerland) (2003-2006) were used. The primary endpoint was the development of MetS as defined by the Adult Treatment Panel III of the National Cholesterol Education Program. Multivariable models were estimated using logistic regression to assess the association between gender-related factors and the development of MetS. Two-way interactions between sex and age and gender-related factors were also tested. Among 5,195 participants without MetS (mean age=51.3±10.6, 56.1% females), 27.9% developed MetS during a mean follow-up of 10.9 years. Female sex

(OR:0.48, 95%CI:0.41- 0.55) was associated with decreased risk of developing MetS. Conversely, older age, educational attainment less than university, and low income were associated with an increased risk of developing MetS. Statistically significant interaction between sex and strata of age, education, income, smoking, and employment were identified. The reduced risk of MetS in females was attenuated in the lowest education, income, and advanced age strata. However, females who smoke and reported being employed demonstrated increased risk of METS. Conversely smoking and unemployment were significant risk factors for MetS development among male adults.

CONCLUSION: Gender-related factors such as income level and educational attainment play a greater role in the development of MetS in females. These factors represent novel modifiable targets for implementation of sex & gender specific strategies to realize health equity for all people.

Association between Gender-related Factors and risk of developing MetS



P040
TEMPORAL TRENDS OF THE PREVALENCE OF ISCHEMIA WITH NON-OBSTRUCTIVE CORONARY ARTERY DISEASE (INOCA) IN ALBERTA, CANADA

S Patel, M Fung, S Butalia, T Anderson

Grande Prairie, Alberta

BACKGROUND: Ischemia with non-obstructive coronary artery disease (INOCA) is a common heart condition often overlooked in cardiology practice. There is still under-recognition of this condition, but it is unclear if the referral patterns for invasive testing have changed. We aimed to determine if the prevalence of patients diagnosed with INOCA through invasive testing has changed over time.

METHODS AND RESULTS: A population-based cohort of patients who had their first cardiac angiography for a chest pain syndrome in Alberta between 1999 and 2019 was extracted retrospectively from the Alberta Provincial Project for Outcome Assessment in Coronary Heart Disease (APPROACH©) database. A temporal trend analysis was performed to compare patients with INOCA to obstructive coronary artery disease (CAD) and investigate the ratios of these two populations

between acute coronary syndrome (ACS) and stable angina (SA), males and females, and males and females with SA and ACS. In our analysis, 121,066 patients were included (26% INOCA, 31% female, mean age 62 years). Patients with INOCA were more likely to be female and associated with stable angina and atrial fibrillation as compared to patients with obstructive CAD (OR=3.29, 95% CI: 3.01, 3.59, $p < 0.001$; OR=2.62, 95% CI: 2.4, 2.86, $p < 0.001$; OR=2.21, 95% CI: 1.77, 2.76, $p < 0.001$, respectively). The percent of INOCA to obstructive CAD ranged between 24.2% and 26.7% in all patients ($p < 0.001$), 19.4% and 21.4% in patients with ACS ($p=0.002$), and 30.6% and 37.5% in patients with SA ($p < 0.001$). Additionally, women had a higher prevalence of INOCA than men, with the percentage of INOCA to obstructive CAD ranging between 17.4% and 20.2% in males and 37.9% and 40.9% in females ($p < 0.001$; $p=0.011$, respectively). A similar trend was observed in both males and females with ACS and SA, with the percent of INOCA to obstructive CAD ranging between 14.1% and 15.7% in males with ACS and 31.4% and 33.5% in females with ACS and 27.3% and 29.5% in males with stable angina and 49.7% and 54.6% in females with stable angina. Overall, there was no substantial difference in the percentage of INOCA to obstructive CAD over time.

CONCLUSION: The results from this indicate that there remains a high prevalence of non-obstructive coronary arteries detected during invasive CAG, and this prevalence remains stable over time for the entire population and the sub-groups evaluated. This demonstrates an opportunity to exclude obstructive coronary disease with less invasive testing, particularly in females.

Table 1. Comparison of baseline characteristics between patients with INOCA and obstructive CAD

Characteristic	ALL (n = 121066)	INOCA (n = 30886)	CAD (n = 90180)	P value
Age, mean years	62.3 ± 11.8	59.0 ± 12.1	63.4 ± 11.5	<0.001
Female (%)	37900 (31)	15024 (49)	22876 (25)	<0.001
Normal coronary arteries (%)	14943 (12.4)	14943 (48)	0 (0)	N/A
Systolic BP, mean	121.1 ± 24.5	122.4 ± 23.4	121.0 ± 24.9	<0.001
Diastolic BP, mean	67.9 ± 12.5	69.1 ± 11.8	67.5 ± 12.7	<0.001
BMI, mean	29.3 ± 6.0	29.8 ± 6.7	29.1 ± 5.7	<0.001
ACS (%)	76252 (63)	15496 (50)	60756 (67)	<0.001
SA (%)	44814 (37)	15390 (50)	29424 (33)	<0.001
Comorbidities (%)				
Hypertension	63257/96429 (66)	15547/25392 (61)	47710/71037 (67)	<0.001
Dyslipidemia	70561/93826 (75)	16924/24500 (69)	53437/69326 (77)	<0.001
Diabetes	23467 (19)	4648 (15)	18819 (21)	<0.001
Current smoker	29139/90964 (32)	6105/23703 (26)	23034/67261 (34)	<0.001
Previous smoker	30554/90964 (34)	7840/23703 (33)	22714/67261 (34)	<0.052
FluCAD	26840/59593 (45)	7446/16189 (46)	19394/43404 (45)	0.004
Malignancy	3330/85178 (4)	869/22654 (4)	2461/62524 (4)	0.505
Atrial fibrillation	707/12790 (6)	262/3620 (7)	445/9170 (5)	<0.001
CKD	772/32923 (2)	152/8743 (2)	620/24180 (3)	<0.001
CEVD	4470/92107 (5)	960/24514 (4)	3510/67593 (5)	<0.001
HF	3758/91556 (4)	908/24562 (4)	2850/66994 (4)	<0.001
Renal disease	3336/86445 (4)	633/22851 (3)	2703/63594 (4)	<0.001
Liver disease	539/66856 (1)	199/18115 (1)	360/48741 (1)	<0.001
PAD	3778/85477 (4)	611/22641 (3)	3167/62836 (5)	<0.001
Medications at Time of Cath (%)				
Aspirin	84762/104499 (81)	20306/26221 (77)	64456/78278 (82)	<0.001
Beta-blockers	63810/104499 (61)	15001/26221 (57)	48809/78278 (62)	<0.001
Statins	57882/104499 (55)	13492/26221 (52)	44390/78278 (57)	<0.001
CCBs	13686/104499 (13)	3476/26221 (13)	10210/78278 (13)	0.376
ACE-inhibitor	42526/104499 (41)	9297/26221 (36)	33229/78278 (42)	<0.001
Long-acting nitrates	17697/104499 (17)	4128/26221 (16)	13569/78278 (17)	<0.001
Insulin	4603/104499 (4)	825/26221 (3)	3778/78278 (5)	<0.001
Lab Results				
Total Cholesterol (mmol/L)	4.6 ± 1.2	4.5 ± 1.1	4.6 ± 1.2	<0.001
HDL (mmol/L)	1.2 ± 0.4	1.3 ± 0.4	1.2 ± 0.4	<0.001
LDL (mmol/L)	2.6 ± 1.0	2.5 ± 1.0	2.7 ± 1.0	<0.001
Triglyceride (mmol/L)	1.7 ± 1.2	1.6 ± 1.0	1.8 ± 1.3	<0.001
Random glucose (mmol/L)	7.4 ± 5.1	6.6 ± 4.3	7.6 ± 5.3	<0.001
Creatinine (µmol/L)	90.4 ± 51.3	85.4 ± 50.6	92.2 ± 51.4	<0.001
HbA1c (%)	6.4 ± 1.5	6.1 ± 1.3	6.4 ± 1.6	<0.001
Index PCI	7508 (6)	0	7508 (8)	N/A
Index CABG	6488 (5)	0	6488 (7)	N/A

Data presented in mean ± SD or count (%). P-value assessed by student's t-test or χ^2 test, as appropriate, and significance was set at $p < 0.05$.

Figure 1.

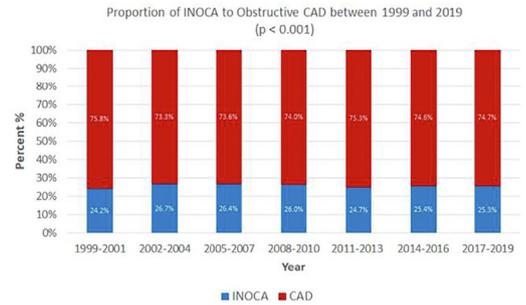


Figure 2A.

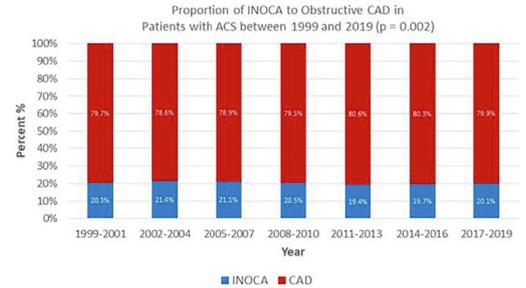
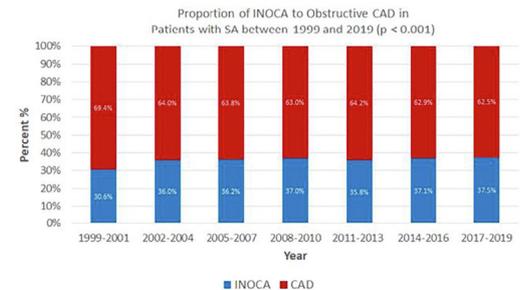


Figure 2B.



**P041
THE IMPACT OF STATIN ON POST-OPERATIVE
ATRIAL FIBRILLATION AFTER DISCHARGE FROM
CARDIAC SURGERY: SECONDARY ANALYSIS OF
THE SEARCH-AF CARDIOLINK-1 RANDOMIZED
TRIAL**

**M Hibino, S Verma, A Quan, P Puar, R Verma, A Pandey,
G Bisleri, A Verma, A Ha, C Mazer**

Cleveland, Ohio

BACKGROUND: There is conflicting evidence regarding the use of statins to reduce the risk of post-operative atrial fibrillation (POAF) in patients undergoing cardiac surgery.

METHODS AND RESULTS: We sought to determine the effects of statin use on the incidence of post-discharge POAF in the Post-Surgical Enhanced Monitoring for Cardiac Arrhythmias and Atrial Fibrillation (SEARCH-AF) CardioLink-1 randomized controlled trial. This trial randomized 336 patients with risk factors for stroke (CHA2DS2-VASc score ≥ 2) and no history of preoperative AF were randomized to usual care or continuous cardiac rhythm monitoring for 30 days after discharge from cardiac surgery with a wearable, patched-based device. The primary endpoint was the occurrence of cumulative AF/AFL lasting for ≥ 6 minutes detected by continuous monitoring or AF/AFL documented by a 12-lead electrocardiogram within 30 days of randomization. We evaluated the association