**Abstract: P2245**

Sex differences in the in-vivo markers of platelet activation among patients with ischemic heart disease: insights from the EVA study

Authors:
V Raparelli¹, GF Romiti², N Sperduti², GF Santangelo², M Vano², F Recchia², M Proietti³, A Lenzi¹, S Basilì², ¹Sapienza University of Rome, Department of Experimental Medicine - Rome - Italy, ²Sapienza University of Rome, Internal Medicine and Medical Specialties - Rome - Italy, ³IRCCS - Istituto di Ricerche Farmacologiche Mario Negri - Milan - Italy,

On behalf: The Endocrine Vascular disease Approach (EVA) Team

Topic(s):
Cardiovascular Disease in Women

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Background/Introduction: Ischemic heart diseases (IHD) are not synonymous with obstructive flow-limiting coronary artery disease (CAD), especially in women. Platelet dysfunction is suggested as a potential mechanism favouring ischemia in non-obstructive CAD. However, it is unknown whether sex differences in platelet function of patients with non-obstructive CAD exist.

Purpose: We assessed for sex differences in in-vivo markers of platelet activation among patients with the acute coronary syndrome and chronic stable angina, with or without obstructive CAD

Methods: From the "Endocrine Vascular disease Approach" (EVA) study, we selected IHD patients undergoing urgent or elective coronary angiography with complete baseline clinical characteristics and angiographic data. Non-obstructive CAD was defined as the presence of coronary stenosis <50%. Thromboxane B2 (TxB2) and soluble P-selectin (sP-s) were measured at baseline. A sex-stratified analysis of platelet biomarkers was performed.

Results: Among two-hundred-seventy-seven patients (mean age 67±11, 37% women), non-obstructive CAD was documented in 25% of patients. Acute coronary syndrome (ACS) was the reason for angiography in 61% of cases. Women had more frequently ACS, as compared with men (54.8% vs 41.3%, p=.001), with predominantly non-obstructive CAD. Median serum TxB2 (121.5 [92.7-174.0] vs 103.5 [83.0-140.2] pg/ml, p=.005) and plasma sP-s (27.0 [18.7-35.0] vs 22.0 [16.0-30.0] ng/ml, p=.006) levels were higher in women patients with ACS as compared with the ones with stable chronic angina. The median concentration of TxB2 was significantly increased in women as compared with men, regardless of the clinical presentation and the coronary stenosis degree (all comparison, p<.001). However, women with non-obstructive CAD were the group with the highest serum levels of TxB2 (140.0 [111.0-152.0] pg/ml). Sex differences in the plasma sP-s level were also observed among patients with stable chronic angina (women, 26 [20.0-34.0] vs men, 21 [16.6-27.7] ng/ml, p=0.002) and with non-obstructive CAD (women, 26 [20.5-34.5] vs men, 18.5 [16.6-26.0] ng/ml, p=0.003).

Conclusion(s) Women with IHD and non-obstructive CAD had increased level of TxB2 and sP-s as compared with men, independently by the clinical presentation. Further investigations are warranted to verify the role of platelet hyperactivation in the pathogenesis of myocardial ischemia with non-obstructive coronary artery disease among women.
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1 Sapienza University of Rome, Department of Experimental Medicine - Rome - Italy, 2 Sapienza University of Rome, Internal Medicine and Medical Specialties - Rome - Italy, 3 IRCCS - Istituto di Ricerche Farmacologiche Mario Negri - Milan - Italy,

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