P10.14: AORTIC PULSE WAVE VELOCITY IS AN INDEPENDENT CARDIOVASCULAR EVENT PREDICTOR IN HIGH CARDIOMETABOLIC RISK GROUP

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Conclusions: The presence of more classical RFs is associated with accelerated progression of vascular aging.

P10.11
MEAN ARTERIAL PRESSURE IS A STRONGER PREDICTOR OF STROKE IN SOUTH ASIAN THAN EUROPEAN MEN, INDEPENDENT OF OTHER CARDIOMETABOLIC RISK FACTORS; THE SABRE STUDY

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Background: Stroke risk is greater in South Asians than Europeans. We sought to compare associations between blood pressure (BP) and stroke by ethnicity and determine how BP contributes to ethnic differences in disease.

Methods: Population sample of 1510 European and 1195 South Asian men recruited between 1988-1991, mean age 52±7 yrs. Incident fatal and non-fatal strokes were captured over 20 years of follow-up. Cox models demonstrated associations between mean arterial BP (MAP) and stroke.

Results: South Asians had more incident strokes than Europeans (5.6 (4.7, 6.7) versus 4.7 (4.0, 5.6) per 1000 person years, age-adjusted hazard ratio: 1.40 (1.08, 1.76), p<0.01) and higher MAPs than Europeans (97±12 versus 93±12mmHg, p<0.0001).

MAP was more strongly associated with stroke in South Asians than Europeans, (HR (95% CI): 1.59(1.35, 1.86) versus 1.19(1.00,1.43) respectively, ethnicity interaction p=0.03), even accounting for receipt of anti-hypertensive medication (1.57(1.32,1.86 versus 1.10(0.91,1.32), interaction p=0.03). The ethnic difference in impact of MAP diminished after further adjustment for smoking, waist circumference, HDL, fasting glucose, HOMA2-IR, HbA1c, and heart rate (1.40(1.21,1.75) versus 1.15(0.92,1.42), interaction p=0.24). However, the greater effect of MAP on stroke in South Asians persisted when this latter model was restricted to people not receiving anti-hypertensive medications, (1.57(1.26,1.96) versus 1.08(0.85,1.37), interaction p=0.02).

Adjustment for MAP could not account for the excess stroke risk in South Asians (1.27 (1.00, 1.62) p=0.05), nor could other risk factors.

Conclusions: MAP had a greater impact on stroke risk in South Asians than Europeans, but could not account for their excess stroke risk, alone or in conjunction with additional risk factors.

P10.12
AORTIC STIFFNESS IS AN INDEPENDENT DETERMINANT OF LEFT VENTRICULAR DIASTOLIC DYSFUNCTION IN METABOLIC SYNDROME PATIENTS

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Aims: The aim was to assess if arterial stiffness, indexed as aortic pulse wave velocity (PWV), is a viable CVD risk prediction variable in high cardio-metabolic risk population.

Methods and results: We studied 4259 high-risk patients (36.2% male), on average having 3.49±1.05 metabolic syndrome components (18% having 5), as per NCEP ATPIII criteria. Starting from 2007, patients were observed and investigated in a single specialized cardiology center. The outcome follow-up was performed using national death registry and national healthcare fund database. CVD events during the follow-up included fatal or non-fatal myocardial infarction (MI) or stroke. Mean age of the study population was 54.13±6.23 with no significant difference between the event free group (EFG) vs. the event group (EG) with at least one CVD event (n=129) during the follow-up, which was 1389.3±625.73 days. Comparing the two groups, aortic PWV was 8.8±1.6 (EFG) vs. 9.4±1.2 (EG), p<0.001, mean aortic pulse pressure (AOPP) 43.28±11.02 (EFG) vs. 46.23±12.32 (EG), p=0.003, mean aortic blood pressure (MeanBP_Ao) 106.69±12.45 (EFG) vs. 111.07±16.65 (EG), p<0.001.

In logistic regression model, aortic PWV remained a strong independent CVD event predictor. Odds ratio (OR) for CV event is 1.387 (95% CI 1.182, 1.627, p<0.001). Comparing cumulative proportion survival rate between the 3rd vs. 1st tertile(PWV<8.8m/s vs. PWV =9.3m/s) of aortic PWV the OR for CVD event was 1.748 (95% CI 1.135, 2.691, p=0.011).

Conclusion: Aortic PWV remained a strong CVD event predictor as well as multivariate stepwise logistic regression models. Survival analysis confirmed it as a viable CVD prediction indicator, to be considered including it in widely used CVD risk assessment tools, especially for high CVD risk group.