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SCREENING ASYMPTOMATIC PATIENTS WITH TYPE 2 DIABETES FOR SILENT MYOCARDIAL ISCHEMIA: IMPORTANT GENDER DIFFERENCES FROM THE DETECTION OF ISCHEMIA IN ASYMPTOMATIC DIABETICS (DIAD) STUDY

ACC Poster Contributions

Ernest N. Morial Convention Center, Hall F

Sunday, April 03, 2011, 3:30 p.m.-4:45 p.m.

Session Title: Radionuclide Imaging: Risk Stratification

Abstract Category: 39. Nuclear Cardiology/PET

Session-Poster Board Number: 1063-228

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Background: In the DIAD study 1,123 asymptomatic patients with type 2 diabetes mellitus (DM) were randomized to screening with adenosine myocardial perfusion imaging (MPI) or no-screening. The aims were to assess the prevalence of silent myocardial ischemia (SMI), identify its predictors and to assess whether screening affects outcome. Not only was the prevalence of SMI lower than anticipated (22%), 4.8-year cardiac event (CE) rate (cardiac death and nonfatal infarction) was low (2.9%) and not affected by screening. Cardiac autonomic dysfunction and male (M) gender were significant predictors of CE.

Purpose: To compare SMI and CE rates in 522 females (F) vs. 601 males (M) in the DIAD study.

Results: The overall prevalence of abnormal MPI was similar between genders (F: 19 % and M: 24%, $p=0.2$). F trended to have less moderate/large MPI screening abnormalities than M ($p=0.07$). CE rate during 5-year follow-up was significantly lower in F than in M (9[1.7%] vs. 23[3.8%], $p=0.05$). CE rates in 271 F randomized to screening and 251 F randomized to no-screening were not different (1.5% vs. 2.0%, $p=0.7$), and neither in 290 M randomized to screening and 311 M randomized to no-screening (3.8 % vs. 3.9%, $p=1.0$). To compare baseline risk of F and M, all participants were categorized using the United Kingdom Prospective Diabetes Study (UKPDS) risk engine. UKPDS risk was significantly different between genders. Of F participants 73% were at low risk, 24% at intermediate risk and only 3% at high risk. In contrast, of M participants 24% were at low risk, 55% at intermediate risk and 21% at high risk ($p<0.001$). CE rates in the low-, and intermediate risk groups were not different: 3(0.8%) and 5(4.1%) for F and 3(2.1%) and 6(1.8%) for M ($p=0.3$ and 0.2). However CE in the high-risk categories was nil 0(0%) in F and higher 14(11.2%) in M ($p=0.2$).

Conclusion: Asymptomatic F with DM had more favorable outcome than their M counterparts. 5-year CE rate was highest in UKPDS high-risk M. Thus, it appears that routine screening is not justified in asymptomatic F with DM, but instead screening might be considered for asymptomatic M with high-risk UKPDS scores for future studies.