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DOES THE OBESITY PARADOX EXIST IN DIABETIC PATIENTS WITH NO KNOWN CORONARY ARTERY DISEASE? RISK STRATIFICATION USING STRESS SINGLE PHOTON EMISSION COMPUTED TOMOGRAPHY MYOCARDIAL PERFUSION IMAGING

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Background: While obesity poses an increased risk for adverse cardiac events, such patients with coronary artery disease often have a better prognosis than their non-obese counterparts, known as the Obesity Paradox. There are limited data on the Obesity Paradox in diabetes (DB).

Methods: Data for 10, 429 consecutive patients undergoing stress SPECT myocardial perfusion imaging with no coronary artery disease were examined, of which 2,490 were DB. Interpretation was based on ASNC 17-segment model. Patients were classified as normal weight (NW), overweight (OW, BMI ≥ 25.0-29.9), or obese (BMI ≥30.0). Patients undergoing coronary revascularization ≤ 60 days after SPECT were excluded. Cardiac events included cardiac death and non-fatal myocardial infarction, and mean follow was 2.1± 3 years.

Results: There is an inverse correlation between BMI and cardiac events in DB and Non-diabetics. In DB, NW patients had greater cardiac events than the OW and obese ($p<0.023$). Similarly, in Non-diabetics, the NW had less cardiac event free survival as compared to the OW and obese ($p<0.03$). DB had worse outcomes than non-diabetics, most pronounced in NW DB verses NW non-diabetics.

Conclusion: Diabetics without known coronary disease have similar favorable outcomes to obese patients with coronary disease. This validates the "Obesity Paradox". In addition, normal weight diabetics had greater cardiac events than non-diabetics without coronary disease, confirming the assumption of coronary disease in diabetic patients.