RELATIONSHIP OF BODY MASS INDEX WITH TOTAL MORTALITY, CARDIOVASCULAR MORTALITY AND MYOCARDIAL INFARCTION AFTER CORONARY REVASCULARIZATION: EVIDENCE FROM A META-ANALYSIS

Poster Contributions
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Background: We aim to investigate the relationship of body mass index (BMI) with total mortality, cardiovascular (CV) mortality and myocardial infarction (MI) after coronary revascularization procedures (coronary artery bypass grafting [CABG] and percutaneous coronary intervention [PCI]).

Methods and Results: A systematic search of studies published between 1966 to May 2013 was conducted using Pub Med, CINAHL, Cochrane CENTRAL and the Web of Science databases. We identified studies reporting rate of myocardial infarction, cardiovascular mortality and total mortality among CAD patients' postcoronary revascularization procedures in various BMI categories [<20 (underweight); 20-24.9 (normal reference); 25-29.9 (overweight); 30-34.9 (obese); >=35 (severe obese)]. Event rates were compared using a random effects model assuming inter-study heterogeneity. 36 studies (12 CABG; 26 PCI) were selected for final analyses. The risk of total mortality, CV mortality and MI was highest among patients with low BMI (RR 2.59 [95% CI 2.09 - 3.21]; 2.67 [95% CI 1.63 - 4.39], 1.79 [95% CI 1.28 -2.50] respectively) at the end of mean follow up period of 1.7 years. Risk of CV mortality was lowest among overweight patients (RR 0.81 [95% CI 0.68 - 0.95]). Increasing degree of adiposity as assessed by BMI had a neutral effect on risk MI (RR 0.92 [95% CI 0.84- 1.01]), (0.99 [95% CI 0.85 -1.15]), and (0.93 [95% CI 0.78 - 1.11]) for overweight, obese and severe obese, respectively.

Conclusion: After a coronary revascularization procedure, the risk of total mortality, CV mortality and MI was highest among underweight patients and CV mortality was lowest among overweight patients.