



## Obesity and Coronary Artery Bypass Surgery: The Endless Dilemma

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### Editorial

In a recent meta-analysis Filardo et al. [1], addressed the endless and actually growing problem of the outcome of Coronary Artery Bypass Graft (CABG) in obese population. Despite the quality of the paper and the correct statistical analysis, we think that the relevance of the issue deserves few more comments which we would like to share with your readers. Based on the analysis of 25 studies investigating the association between preoperative BMI and postoperative mortality following CABG, the conclusion of the metanalysis [1] is that categorizing preoperative BMI heavily biases estimates of its association with post CABG mortality. Debate regarding the correct evaluation of preoperative overweight in estimating risk for unfavorable postoperative outcome is not new. In our previous paper [2,3] we stressed two key questions that should never be ignored when addressing such issue. First of all we showed that population from different geographic area could be characterized by extremely different mean/median value of BMI. As a result of these difference, we stressed that the simply categorization obese/not obese based on the BMI cut off at 30 kg/m<sup>2</sup> could be surely misleading in predicting postoperative complications [2]. In our population we found that the cut-off BMI=35 kg/m<sup>2</sup> was, conversely, significantly correlated to a poor outcome. As conclusion we stressed that a proper categorization, tailored according the population we are dealing with, is mandatory in evaluating the real risk of CABG in overweight population. In a following review [3] based on 11 papers (3 of them also quoted by Filardo et al. [5]) we also stressed that to fully clarify the correlation between CABG outcomes and preoperative obesity, a complete evaluation of unfavorable outcomes was mandatory. Despite significative difference in 30-days mortality is not frequently confirmed, several aspects of postoperative morbidity (i.e.: sternal and leg wound infections, prolonged ICU and mechanical ventilation times, prolonged hospital stay) significantly increases in severely obese population. Furthermore a key aspect as the Quality of Life (QoL) [4] is still poorly evaluated. We have recently started to look more deeply in post-rehabilitation discharge and we have found in a preliminary cohort of 175 patients undergoing isolated CABG (unpublished data) a significant correlation between significative obesity (evaluated by interquartile range) and reduced satisfactory rehabilitation either in term of physical activity (6 min walking test) either in term of QoL. We already [3] favorably quoted as a potential developments the preliminary report by Filardo et al. [5] on the evaluation of BMI as a continuous variable rather than grouping patients according different cut off, and we agree that smoothing techniques are surely more appropriate in full retrospective analysis. At current stage, however, we do believe that underline the group of patients at higher risk is mandatory and can be successfully obtained only with a deep analysis of the specific patient's population we are dealing with. We, therefore, fully agree that we have to be reluctant to deny CABG even in obese population but, in other hands, we strongly believe that patients with severe obesity, especially if with a low therapeutical compliance, should be clearly advised about all potential risks of postoperative impaired QoL and reduced clinical benefits following CABG.

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