Preoperative Hemoglobin A1C as a Predictor of Mortality after a CABG Operation

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Objectives: Diabetes is a well known risk factor for adverse events post heart surgery. A1C hemoglobin level can give a good perspective concerning the latest three months diabetes patient's status. The purpose of this study was to document the prevalence of uncontrolled diabetes in patients referred for CABG and determine whether a correlation exists between uncontrolled diabetes and post-operative morbidity and mortality.

Methods: One hundred eighty six consecutive patients underwent a CABG operation From July 1, 2007 to July 31, 2008. Patients' files were retrospectively studied. The cohort was divided according to serum A1C hemoglobin level. Patients with A1C hemoglobin level higher than 6.3% were compared with those who had normal A1C hemoglobin levels. Post-operative morbidity in terms of atrial fibrillation, wound infection, renal failure, cerebrovascular events and troponin level as well as mortality were documented.

Results: Out of 186 patients, 86 (46.2%) had A1C Hg higher than 6.3% while 100 patients (53.8%) had normal A1C Hg levels. Mortality was significantly higher among the elevated A1C Hg group (6/86 7%) compared to the normal level group (1/100 1%, p=0.05). Adverse events and postoperative morbidity was not found statistically different between the two groups.

Conclusions: A high percentage of patients who have been referred for a CABG operation have uncontrolled diabetes pre-operatively, as reflected by hemoglobin A1C levels. An elevated hemoglobin A1C level was found to be a predictor of post-operative mortality in patients undergoing a CABG operation.