

Pre-diabetic state; outcome and prognosis after coronary bypass graft surgery, do we need to change our belief? A historical cohort study

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Abstract

Backgrounds; currently knowledge of the effects of pre-diabetes on the post-surgical outcomes of mortality and major adverse cardiovascular events (MACE) after coronary artery bypass graft surgery (CABG) is limited. The aim of this study is to evaluate the MACE and overall one-year survival of patients with pre-diabetes who underwent elective isolated CABG

Material and Methods; after a thorough analysis of CABG database since January 2016, 3741 patients were included. Patients were categorized as follows; diabetes mellitus type 2 (n=2695), pre-diabetics (fasting blood sugar (FBS) 100-125 mg/dl and HbA1C 5.7%-6.4%) (n=471) and non-diabetics (FBS <100 mg/dl and HbA1C < 5.7%) (n=575). Primary endpoint (MACE) was the composite of stroke, acute coronary syndrome, and coronary revascularization. Event-free survival was assessed and compared between groups over a median follow up of one year.

Results; in this prospective cohort design, 3741 patients that underwent elective isolated CABG were evaluated. One-year overall survival percent was 100% for non-diabetic and pre-diabetic patients and 99.9% for diabetic patients; (p-value 0.56). One-year event free survival was 97.4 % for non-diabetics, 98.1% for pre-diabetics and 96.8% for diabetic patients; (p-value=0.08).

Conclusion; one-year overall survival and also the event-free survival of pre-diabetic patients were similar to those without DM. Over the median follow up of one-year, descending trends shows the higher probability of adverse events in diabetic patients with longer follows up.

Key words; Diabetes, Pre-diabetes, coronary bypass graft surgery, prognosis