

## **Survival in Patients Undergoing Open Cardiac Massage after Coronary Artery Bypass Grafting.**

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**OBJECTIVE:** Incidence of cardiopulmonary resuscitation is 2% - 3% after cardiac surgery. Our previous studies show that signs of inadequate tissue perfusion, myocardial ischemia, and increased need for inotropic and mechanical support predict postoperative hemodynamic collapse. This study focused on additional complications related to this event and factors predictive for survival.

**METHODS:** Isolated CABG was performed in 8807 patients 1988-1999. Unrelated to pericardial bleeding or tamponation, 76 (0.9%) faced sudden hemodynamic collapse and open cardiac massage during immediate postoperative course. Of these, 41 (54%) survived whilst 35 (46%) were lost. We statistically compared these patient groups and, additionally, all 76 patients facing hemodynamic collapse with 76 preoperatively matched controls.

**RESULTS:** Among open cardiac massage patients, rate of cardiac (85%/20%,  $p<0.0001$ ), neurological (22%/4%,  $p=0.001$ ), pulmonary (54%/5%,  $p<0.0001$ ), and renal (15%/0%,  $p=0.001$ ) complications was more frequent than in matched controls. Infections were more common (39%/5%,  $p=0.0001$ ), additional surgery was more often required (41%/4%,  $p<0.0001$ ), and both ICU (8 days/2 days,  $p<0.0001$ ) and hospital stay (20 days/12 days,  $p<0.01$ ) were longer. Cardiopulmonary bypass time was longer ( $p<0.01$ ) in non-survivors than in patients surviving open cardiac massage. Arterial grafts were more frequently ( $p<0.05$ ) used in survivors. Long term survival was equal in open cardiac massage survivors and matched controls.

**CONCLUSIONS:** Sudden hemodynamic collapse resulting in need of open cardiac massage is fatal in almost one half of patients and leads in frequent complications and prolonged ICU and hospital stay. However, survivors reach excellent long term result, which may at least partly be due to the frequency of arterial grafts.