

SUPPLEMENTAL MATERIAL

Supplemental Methods: CRF instructions to sites for patients randomized to CABG or CABG + SVR treatment

Mediastinitis: Any wound disruption exposing the sternum or requiring a secondary operation or stabilization of the sternum prior to discharge.

Other infection: All other types of major postoperative infections (except mediastinitis), such as pneumonia, pyelonephritis, septicemia, and infections at the vein-harvest site.

New onset atrial flutter/fibrillation (AF): New onset AF in a patient that was previously in normal sinus rhythm (regardless of history of AF) at randomization lasting at least 24 hours and/or requiring electrical or chemical cardioversion.

New onset ventricular arrhythmia: Ventricular tachycardia sustained for >30 seconds or ventricular tachycardia requiring anti-arrhythmic or cardioversion.

Worsening renal insufficiency: An insufficiency resulting in an increase of >2 mg/dL and 2x baseline creatinine level or a new requirement for dialysis.

Delirium: State of mental confusion and excitement characterized by disorientation for time and place, usually with illusions and hallucinations.

Acute MI: A myocardial infarction characterized by at least 2 of the following criteria:

- Prolonged (>20 min) typical chest pain not relieved by rest and/or nitrates.

- Enzyme level elevation defined as troponin T or I $\geq 3x$ ULN or CK-MB $\geq 2x$ normal in medically treated patients, CK-MB $\geq 3x$ normal in patients after PCI, or CK-MB $\geq 5x$ normal in patients after CABG.
- At least 2 serial ECGs with changes and/or serially in ST-T and/or Q waves that are 0.03 seconds in width and/or one third or more of the total QRS complex in 2 or more contiguous leads.

Stroke: A new central neurological deficit (i.e., extremity weakness or loss of motion, loss of consciousness, loss of speech, field cuts) of sudden onset that is not reversible within 24 hours and not due to a readily identifiable cause (i.e. brain tumor, or trauma) persisting >72 hours after onset or leading to death.

Complications, which were available to check by investigators in the clinical report form, had pre-specified definitions, but also an open category "other." All complications filled in category "other" are listed in Supplemental Table 1. After reviewing this list based on clinical judgment, two authors/investigators, who are experienced cardiac surgeons, made the decision to create new categories: GI complications, respiratory compromise, other major, and other non-major.

Supplemental Table 1

All postoperative in-hospital morbid events and complications that met a pre-specified definition that occurred within 30 days after operation were tabulated. Definitions follow.

Major Complications Derived from Case Report Form (CRF) Text

Gastrointestinal

Peripheral, abdominal embolism (suspected)
 Small bowel ischemia
 Acute pancreatitis
 GI bleeding
 Cholestasis
 Ileus
 Upper GI bleed

Hospitalized for GI distress
Gastric bleeding
Mesenteric ischemia
GI bleeding duodenal
Lower digestive tract hemorrhage
Acute gastritis

Respiratory compromise

- Respiratory insufficiency
- Left bronchus obturation requiring bronchoscopy and aspiration
- Intensive respiratory therapy
- Tracheostomy
- Pneumothorax
- Pneumothorax [left pleural effusion]
- Respiratory distress
- Pneumonia with reintubation
- Desaturation to below 90% oxygen saturation on room air
- Respiratory arrest
- Pneumothorax
- Re-intubation
- Tracheotomy
- Reintubation for bronchospasm
- Reintubation for low oxygen saturation
- Respiratory failure
- Pneumonia with intubation
- Intubation
- Nitric oxide inhalation (patient died at ICU being intubated)
- Pleural effusion
- Reintubation for chronic obstructive pulmonary disease

Other major complications

- Defibrillation
- Pulmonary embolus
- Tamponade
- Multi-organ failure (MOF)
- Severe bleeding
- ECMO
- Cardiogenic shock
- Heart failure
- Right femoral thrombectomy Grade IV medical limits
- Low cardiac output – heart failure
- Hypotension traced back to ACU
- Sepsis
- Seizures
- Liver failure
- Systemic inflammatory response syndrome
- Septic shock
- ECMO
- Stroke
- Dialysis

Not considered major and not included as a complication in the models

- Left pleural effusion
- Large left pleural effusion
- Pleural effusion
- Pleural effusion
- Pleural effusion and puncture
- Electrocardioversion
- IABP placed electively at preinduction of anesthesia
- IABP
- Pneumocystidiosis
- Recurrent atrial fibrillation
- Anemia, requested 3 blood units
- Postoperative anemia requiring transfusion
- Anemia, requested 2 blood transfusion
- 2 units of PRBCS and 1 unit of FFP
- Blood transfusion
- Oliguria
- Intraventricular conduction delay
- Cardioversion for atrial flutter/fibrillation
- Hyperamylasemia
- Perianal abscess
- Leg edema
- Ventricular fibrillation/cardiac arrest before enrollment to STICH
- Psychotic syndrome
- Hydrothorax
- Pneumonia
- Pericardial fluid
- Thoracentesis
- Unstable sternum
- Hypotension
- Anaphylactic reaction postoperatively
- Hematuria
- Depression
- RFA radiofrequency ablation was performed because of macro re-entry atrial tachycardia
- Low output syndrome
- Coagulopathy
- Anterior compartment syndrome of left lower extremity requiring fasciotomy and muscle debridement
- Hemodynamic instability at the time of chest opening (beginning of the procedure) resulted in low cardiac output of the wheezing from cardiopulmonary bypass at the end of the procedure
- Allergic reaction against plasma transfusion
- Transient ischemic attack
- Transient ischemic attack
- Pericardial effusion syndrome post cardiectomy
- Transient sinus pause
- Hyperthermia
- Chronic renal insufficiency
- Cerebrovascular accident – stroke or TIA
- Hyperkalemia
- Hyperamylasemia
- Tinnitus

- Low hematocrit
 - Left ventricular thrombus
 - Peripheral artery occlusion
 - Fever
 - Arrhythmia
 - High chest tube output
 - Temporary pacemaker for heart rate
 - Non-functioning ICD re-implant
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