***Definitions of comorbidities***

Coronary artery disease defined as history of acute myocardial infarction, finding of stenosis on coronary angiogram, or positive stress testing.

Congestive heart failure defined as left ventricular ejection fraction ≤40%, or diastolic dysfunction ≥ grade II or documented history of cardiogenic pulmonary edema.

Valvular heart disease defined as at least one mild or severe any valvular stenosis or regurgitation that diagnosed by echocardiography.

Atrial fibrillation defined as documented history of paroxysmal atrial fibrillation or atrial fibrillation on preoperative ECG.

Pulmonary embolism defined as history of pulmonary embolism that confirmed by CT pulmonary angiography or ventilation/perfusion lung scan.

Stroke defined as history of new focal neurological deficit thought to be vascular in origin with signs and symptoms lasting more than 24 hours

Lung disease defined as documented history of chronic bronchitis, emphysema, COPD, sequel of tuberculosis, tumoral lesion in the lung or restrictive lung disease that diagnosed by lung tomography or respiratory function test