

SUPPLEMENTARY MATERIAL

DEFINITION OF VARIABLES

Major Study Outcomes

All-cause mortality: Death from any cause following urgent heart transplant listing.

Death during intra-aortic balloon pump (IABP) support: Death from any cause while on temporary mechanical circulatory support (MCS) and before transplantation.

Transplant during IABP support: Heart transplant after urgent listing and while on support with an IABP

Transition to MCS: Implantation of a full-support MCS device, either short-term or long-term, after urgent listing and before transplant, while the patient was being supported with an IABP.

Survival to discharge: Patient discharged alive from hospital at any time after urgent listing (having been transplanted or not).

Adverse Clinical Events Associated to Intra-aortic Balloon Pump Support

Infection: Any culture-proven infection or empiric intravenous antibiotic therapy due to high clinical suspicion of infection during IABP support.

Bleeding: Any hemorrhagic event requiring transfusion of 4 or more packed red blood cell units, or leading to hemodynamic instability that requires vasopressors, or requiring an invasive intervention, eg, surgical exploration, percutaneous drainage, endoscopic therapy, or any intracranial bleeding, during IABP support.

Vascular access site complication: Any ischemic, hemorrhagic or infectious complication at the vascular access site of the IABP that requires an invasive intervention, eg, surgical drainage, percutaneous angioplasty, change of vascular access site, or device exchange or replacement.

Stroke: New onset of a permanent or transient neurologic deficit, which is presumably caused by cerebral ischemia or intracranial bleeding.

Non-central nervous system thromboembolism: Any arterial embolic or thrombotic event, excluding acute stroke or cerebral transient ischemic attack, during IABP support, eg, limb ischemia, bowel infarction.

Venous thromboembolism: Any episode of deep venous thrombosis or pulmonary embolism during IABP support.

Device dysfunction: Failure of any component of the IABP device that leads or potentially might lead to insufficient circulatory support or the death of the patient, or that requires device explantation or replacement.

Renal failure: Acute renal dysfunction requiring dialysis, hemofiltration or ultrafiltration at any time during IABP support.

Pleural effusion: Any pleural effusion requiring thoracentesis or surgical drainage during IABP support.

Pericardial effusion: Any pericardial effusion requiring pericardiocentesis or surgical drainage during IABP support.

Hemolysis: Persistent laboratory findings of haemolysis, ie, unexplained anemia, high levels of lactate dehydrogenase and plasma-free hemoglobin, schistocytes, that requires transfusion of packed blood red cells, or a substantial reduction of device parameters, or IABP exchange, relocation or replacement.

Major adverse clinical event: First occurrence of stroke, device dysfunction, infection, or bleeding event during IABP support.

Intra-aortic balloon pump-related complication: Any relevant clinical complication considered to be caused by the IABP.

In-hospital Postoperative Outcomes After Heart Transplant

In-hospital postoperative death: Death from any cause after heart transplant and before hospital discharge.

Infection: Any culture-proven infection or empiric intravenous antibiotic therapy due to high clinical suspicion of infection after heart transplant and before hospital discharge.

Renal failure: Acute renal dysfunction requiring dialysis, hemofiltration or ultrafiltration at any time after heart transplant and before hospital discharge.

Open-chest redo surgery: Any cardiac surgical intervention requiring sternotomy after heart transplant and before hospital discharge.

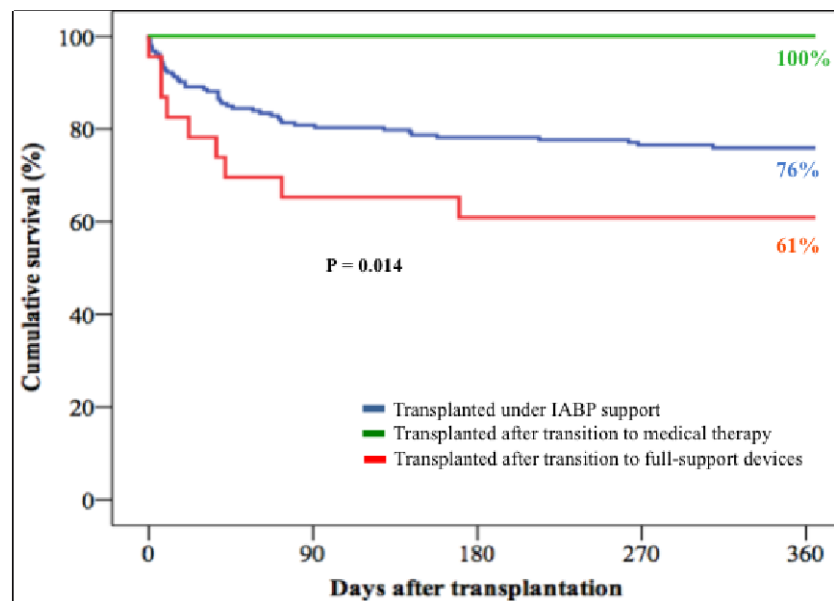
Excessive postoperative bleeding: Postoperative bleeding after heart transplant that requires transfusion of 10 or more packed red blood cells units or surgical exploration, or that causes hemodynamic instability requiring intravenous vasopressors.

Primary graft failure (left ventricular or biventricular): Contractile dysfunction of the graft occurring during the first 24 hours after transplant, which is defined by current international criteria for heart and lung transplantation such as moderate or severe left ventricular (or biventricular) primary graft failure –left ventricular ejection fraction < 40% and/or an hemodynamic pattern with mean arterial pressure > 70 mmHg lasting more than 1 hour, right atrial pressure > 15 mmHg, cardiac index < 2 L/min/m² and pulmonary wedge pressure > 20 mmHg, requiring high-dose vasoactive drugs (vasoactive-inotropic score > 10), intra-aortic balloon pump or mechanical circulatory support.

Primary graft failure (right ventricular): Contractile dysfunction of the graft during that occurs during the first 24 hours after transplant and is characterized by the presence of a preserved left ventricular ejection fraction (> 40%), together with a typical hemodynamic pattern with right atrial pressure > 15 mmHg, cardiac index < 2 L/min/m² and pulmonary wedge pressure < 15 mmHg, or the need for a right ventricular assist device.

Temporary mechanical circulatory support after transplant: Insertion of a temporary MCS device—extracorporeal membrane oxygenation, surgically implanted left ventricular assist device or biventricular assist device, or percutaneous LVAD—at any time after transplant and before hospital discharge. This definition does not include intra-aortic balloon pump.

Figure of the supplementary material. One-year post-transplant survival of patients who underwent heart transplant during the index hospitalization after *status 1* listing, as stratified by the type of circulatory support at the time of transplant. IABP, intra-aortic balloon pump.



Patients at risk					
Transplanted on IABP	194	155	144	136	130
Transplanted after transition to medical therapy	18	18	18	18	17
Transplanted after transition to full-support devices	23	15	14	13	13