

Heart Transplantation: Science and Social Awareness Linked to Save Lives

INTRODUCTION

Heart transplantation is a surgical procedure performed to remove a heart with end-stage functional impairment and replace it by a healthy heart from a deceased donor. The first heart transplantations were performed in the late 1960s, but it was in the 1980s -with the use of anti-rejection (immunosuppressive) drugs- that this procedure was consolidated as a surgery of choice to improve life expectancy and quality in patients with end-stage heart failure.

WHO MIGHT NEED HEART TRANSPLANTATION?

Heart transplantation is indicated in patients with severe and irreversible forms of heart failure who are unresponsive to the several treatments currently available: medications and electronic devices (cardioverter defibrillators and resynchronization devices). The main reasons leading to this condition include acute myocardial infarction and cardiomyopathies (heart muscle diseases).

WHAT DOES THE MEDICAL TEAM ASSESS TO INDICATE HEART TRANSPLANTATION?

A multi-disciplinary team analyzes the medical history, establishes the severity of heart failure and the possibility of offering other treatments, and rules out contraindications to transplantation. Psychological assessment and social and family support are also very important.

PREOPERATIVE PROGNOSTIC FACTORS

The best outcomes are achieved in patients under 65 years of age. Medical situations determining the immediate postoperative prognosis are fixed pulmonary hypertension (high blood pressure in pulmonary arteries) which puts the implanted heart at risk for heart failure, and failure of other organs, such as kidneys and liver.

WAITING FOR THE ORGAN

Once the patient is accepted in a transplantation program, he/she is added to the waiting list to receive a heart. Registration is done by the transplantation team, and it is regulated, coordinated and audited by the INCUCAI (National Institute for Organ Donation and Transplantation). The priority for organ procurement firstly depends on the clinical situation: patients requiring ICU hospitalization with circulatory assistance are in urgency or emergency situation and therefore have priority for heart transplantation due to their impending death. In contrast, patients who are in a relatively stable condition are considered to be in an elective situation. Likewise, a patient in elective situation can be quickly moved to an emergency condition according to his/her clinical outcome. It should be pointed out that, under equal situations, the factors determining access to the organ are blood type, weight, height, and length of time in the waiting list.

THE DONATION

Donation is an anonymous act of solidarity which allows organ ablation from a deceased donor. The donor must always be in an intensive care unit as he/she is connected to a ventilator. Donation criteria are brain death and absence of spontaneous breathing. When the ICU attending physician considers a patient to be a potential donor, he/she contacts the INCUCAI or the Jurisdictional Agencies of Ablation and Implant. The family is informed throughout the process, and the process will follow the donor's decision -if it was stated- or the family decision.

OUTCOMES AND LONG-TERM PROGNOSIS

The postoperative course after heart transplantation is very similar to that of a conventional cardiac surgery, only slightly longer. During that period, the transplanted heart function is monitored with routine studies and periodic cardiac biopsies. Millimeter samples of cardiac tissue are taken in the biopsy to determine whether or not the organism is rejecting the organ. Most transplants are successful, and chances for survival at one year are 85%. After heart transplantation, the most common risks are rejection and infections. Today, however, anti-rejection or immunosuppressive drugs have changed the prognosis dramatically. Lack of compliance to medical indications and psychosocial support are the main causes of poor long-term post-transplant prognosis. With proper care and by following the doctor's advice, patients receiving a heart can lead a full and productive life.

Science and social awareness together to save lives

There should be a true communion between science and social awareness in order to carry out heart transplantation. It is everyone's responsibility to do so (See Table).

Criteria for Heart Transplantation

Receiver Characteristics

- Severe heart failure
- Be accepted into a program of cardiac transplantation
- Priority of organ allocation according to the clinical condition, blood type, height, weight and position in the waiting list

Donor Characteristics

- Hospitalized in intensive care with suspected brain death
- Willingness to donate

Steps the doctor on duty must follow

- The doctor in charge of the intensive care unit must notify the INCUCAI in Buenos Aires, CAICA in Catamarca, INCAIMEN in Mendoza, depending on which region of the country the donor is)

INCUCAI (National Institute for Organ Donation and Transplantation)

- It will diagnose the certainty of brain death
- It will assess whether the patient has left express willingness to be a donor- otherwise, it will seek authorization from the family
- It will preserve the donor and organs to be transplanted



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INFORMATION YOU MAY FIND IN THE WEB

- <http://www.incucai.gov.ar>
- http://www.buenosaires.gob.ar/areas/salud/bsas_trasplante
- <http://www.sat.org.ar>

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