Heart, Lung and Vessels. 2014; 6(4): 223-224

Invited Editorial

Walking in intensive care unit while recovering from heart transplantation

M. Polastri[1], S. Pastore[2], F. Grigioni[2], G. Frascaroli[2]

[1]Physical Medicine and Rehabilitation, University Hospital S. Orsola-Malpighi, Bologna, Italy; [2]Department of Cardiac-Thoracic and Vascular Diseases, University Hospital S. Orsola-Malpighi, Bologna, Italy

In 1967, Dr. Christiaan Barnard performed the first successful heart transplantation; the recipient survived 18 days before dying from bilateral pneumonia (1). Before Dr. Barnard, a Russian scientist, V.P. Demikhov, performed several heart and heart-lung transplantation experiments in animal models (2). Following the introduction of immunosuppressant drugs to prevent rejection in the mid-1900s, cardiac transplantation developed rapidly. Since those times, many advances have been made and cardiac transplantation is now performed routinely in eligible patients. While the challenge in the past was merely survival, now close interest is focused on the quality of life during the recovery from the surgical procedure and on the achievement of the best outcomes as early as possible after surgery. Of course, heart transplantation is directly linked to the availability of donors. Decreasing organ donation is a major concern of modern transplantation medicine, with increasing numbers of anxious patients awaiting donors.

Typically, heart transplant recipients spend their first postoperative days in a sterile space in an intensive care unit (ICU) and are confined to bed in order to guarantee the greatest safety. In such a space, physical rehabilitation includes the recovery of the first in-bed movements, passive range-of-motion exercises and respiratory therapy. All vital functions are monitored and supported mechanically, if needed. Clinical instability is the major concern in the

Corresponding author:
Massimiliano Polastri, MSc
Physical Medicine and Rehabilitation
University Hospital S. Orsola-Malpighi
Via G. Massarenti, 9 - 40138 Bologna, Italy
e-mail: gbptap1@gmail.com

first postoperative days. Obviously, the space characteristics of a cubicle prevent walking from being the main rehabilitative goal due to the presence of infusion pumps and the need to maintain oxygen or nitrox support. Since walking could represent a personal goal for the patient, why shouldn't it be encouraged by professionals when feasible? In truth, there is no safer place in a hospital than an ICU.

As previously noted, walking should not be a key goal in the ICU. It has been found that walking was an effort as intense as tilting-up in a population of ICU patients whose stay was at least 7 days (3). Walking and standing are feasible in an ICU setting, although adverse events can occur during treatment, often including decreased muscle tone, orthostatic hypotension, and hypoxemia (3). We agree with this approach and believe that early physiotherapeutic intervention is advisable in eligible heart transplant recipients during their ICU stay, when they are threatened by complications related to bed rest. Therefore, walking assumes an intrinsic meaning if started in the ICU, when possible, opening the door to future improvements for the patient. In addition, if a patient is able to stand-up or walk in the ICU, then activity on a regular ward should be more effective. When walking is a viable option in ICU heart transplant patients, it is in such moments that we appreciate the emotions that even a simple single step can generate in the ICU.

Heart transplantation has become a valuable procedure that improves the survival and quality of life of patients with end-stage heart failure; at the same time early postoperative rehabilitation started in the ICU can enhance the already notable results of this surgical procedure.

REFERENCES

1. Barnard CN. A human cardiac transplant: an interim report of a successful operation performed at Groote Schuur Hospital, Capetown. S Afr Med J 1967; 41: 1271-4.
2. Demikhov VP. Transplantation of the heart, lungs and other organs. Eksp Khir Anesteziol 1946; 14: 3-8.
3. Bourdin G, Barbier J, Burle JF, Durante G, Passant S, Vincent B, et al. The feasibility of early physical activity in intensive care unit patients: a prospective observational one-center study. Respir Care 2010; 55: 400-7.

Cite this article as: Polastri M, Pastore S, Grigioni F, Frascaroli G. Walking in intensive care unit while recovering from heart transplantation. Heart, Lung and Vessels. 2014; 6(4): 223-224.

Source of Support: Nil. **Disclosures:** None declared.