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LEFT ATRIAL ANASTOMOSIS DURING BILATERAL LUNG TRANSPLANTATION: A COMPLEX HILUM MADE EASY

Davide Tosi¹, A. Cannata², P. Properzi³, L. Rosso¹, A. Palleschi¹, P. Mendogni¹, I. Righi¹, M. Montoli¹, M. Nosotti¹, L. Santambrogio¹

¹*Thoracic Surgery and Lung Transplantation Unit, Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico, Milan, Italy*

²*Cardiac Surgery Department, Ospedale Niguarda Ca' Granda, Milan, Italy*

³*Anesthesiology Department, Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico, Milan, Italy*

Objectives:

To describe a technique of heart mobilization, able to improve the access to the left hilum, during lung transplantation (LTx).

Case description:

In a recent case of bilateral LTx for cystic fibrosis, left hilum exposure was very difficult to obtain. The maneuvers to displace medially the pericardial sac, in order to perform atrial anastomosis, were not tolerated hemodynamically because of severe systemic hypotension. A wide inverted T-shaped incision was performed on the pericardium, but hemodynamic parameters showed an unacceptable risk of sustained systemic hypoperfusion. A cardiopulmonary bypass seemed to be unavailable. We decided to mobilize the heart with a pericardial stitch, usually performed during revascularization on a beating heart: two heavy sutures (0 polyester) were placed along the left pericardial border. The heart was temporarily lifted in order to expose the pericardial oblique sinus, where a deep pericardial traction stitch (2-0 polyester) was placed. The suture was passed through a long wet gauze and then snared down to the pericardium by means of a long rubber tourniquet. Upward traction was applied on the tourniquet, that was fixated to the surgical drapes. Such maneuver lifted the apex of the heart, that was placed in vertical position. The heart was secured by means of the two arms of the gauze, that were crossed and wrapped around the ventricles and fixated with clamps to the surgical draping. The sutures on the left pericardial border were pulled upwards. The exposure of the left hilum was excellent and hemodynamics remained stable and satisfactory during the atrial cuff anastomosis of the left lung. The traction on pericardium and the luxation of the heart avoided the need of veno-arterial extracorporeal membrane oxygenation.

Conclusions:

This technique can provide a good exposure of the left hilum, avoiding in some cases cardiopulmonary bypass during lung transplantation.

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Keywords: hilum exposure, lung transplantation, vascular anastomosis, cardiopulmonary bypass