

“Don’t give up” - Heart & Lung transplantation 27 years later.

Michael Magarakis¹, Alejandro Macias², and Alvaro Montoya¹

¹Miami VA Medical Center - University of Miami Miller School of Medicine

²University of Miami Health System

May 15, 2020

Letter to the editor

Word Count: 538

“Don’t give up” - Heart & Lung transplantation 27 years later.

Michael Magarakis, MD

Assistant Professor of Cardiothoracic Surgery

Division of Cardiothoracic Surgery

University of Miami Miller School of Medicine, Miami, FL

Alejandro E. Macias, MD

Division of Cardiothoracic Surgery

University of Miami Miller School of Medicine, Miami, FL

Alvaro Montoya, MD

Chief of Cardiothoracic Surgery Miami VA Healthcare System

Professor of Cardiothoracic Surgery

Division of Cardiothoracic Surgery

University of Miami Miller School of Medicine, Miami, FL

Acknowledgments to Transplant Team: Henry J. Sullivan, MD-Surgeon, Vassyl Lonchyna, MD-Surgeon, Edward Garrity, MD-Transplant Pulmonologist

The authors have no conflict of interest to disclose

Address reprint requests to:

Michael Magarakis, MD

1611 NW 12th Avenue, Miami, FL 33136

Email address: mmagarakis@yahoo.com

Phone: 305-585-5271

In 1993, an otherwise healthy 37-year-old male presented to our service with increasing shortness of breath, fatigue and lethargy. The patient was a marathon runner, non-smoker and generally in good physical

condition. He thought he was undergoing a routine check-up when he was given what many consider a “terminal diagnosis”, Bilateral Multifocal Bronchoalveolar Carcinoma (BAC).

BAC is a distinct subtype of non-small cell lung cancer (NSCLC) with lower rates of nodal and extra-thoracic metastases and better survival compared to other subtypes of NSCLC (1,2). BAC tends to recur or metastasize within the lung often to a point that is beyond the scope of surgical management; and, it is associated with a dismal prognosis having a median survival of 1 year (3).

Lung transplantation, although a major operation, may occasionally be the only hope for permanent cure. Some motivated centers have pursued lung transplantation for this disease and outcomes are no different compared to non-cancer lung transplant recipients. However, only a little over 50 cases have been reported (4).

In 1993, one month after patient’s initial diagnosis, he underwent double-lung transplantation without the use of cardiopulmonary bypass. Pathology at the time revealed extensive involvement of both lungs with BAC and no nodal metastases. (Figure 1) The patient did well for several months, until a follow up CT scan revealed multiple nodules in both lungs, which was biopsy confirmed BAC. At the time, we hypothesized contamination during transplantation had occurred. The patient remained eager to cooperate and stay alive: he was started on Taxol based chemotherapy without improvement.

In 1995, the patient underwent Heart/Lung transplantation. We used cardiopulmonary bypass, the heart and lungs were removed. The trachea was clamped, transected and thoroughly washed with saline solution to prevent aerogenous contamination. (Figure 2) The patient achieved a complete recovery, and has had no complications to date.

During regular follow up visits the patient continues to express his gratitude for the chance he was given to live; more importantly, acknowledgement of not giving up on him or losing vigor to save his life. We are not aware of another report of redo Heart/Lung transplantation for BAC; yet the purpose of this case presentation is to emphasize to the next generation of surgeons the importance of not giving up on your patients.

References:

1. Grover FL, Piantadosi S. Recurrence and survival following resection of bronchioloalveolar carcinoma of the lung—The Lung Cancer Study Group experience. *Ann Surg* 1989;209: 779–90.
2. Ebright MI, Zakowski MF, Martin J, et al. Clinical pattern and pathologic stage but not histologic features predict outcome for bronchioloalveolar carcinoma. *Ann Thorac Surg* 2002;74:1640–6.
3. Breathnach OS, Ishibe N, Williams J, Linnoila RI, Caporaso N, Johnson BE. Clinical features of patients with stage IIIB and IV bronchioloalveolar carcinoma of the lung. *Cancer* 1999; 86:1165–73.
4. Ahmad U, Wang Z, Bryant AS, Kim AW, Kukreja J, Mason DP, Bermudez CA, Detterbeck FC, Boffa DJ. Outcomes for lung transplantation for lung cancer in the United Network for Organ Sharing Registry. *Ann Thorac Surg*. 2012 Sep;94(3):935-40; discussion 940-1. doi: 10.1016/j.athoracsur.2012.04.069. Epub 2012 Jul 25.

Figure Legend

Figure 1: Lung specimen of recipient lungs affected with bilateral multifocal bronchoalveolar carcinoma.

Figure 2: Alvaro Montoya, MD analyzing a donor heart and lung, 1995.



