

The First Registry of the Fukuoka University Hospital Lung Transplantation Program (2005-2015)

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Abstract

Background: The Japanese Organ Transplant Law which took effect in 1997 allowed the procurement of human organs from brain dead donor for the purpose of organ transplantation. At the beginning (1998) when Japanese lung transplantation program started according to this law, only four institutes were authorized to perform lung transplantation including Tohoku, Kyoto, Osaka, and Okayama University Hospitals. Fukuoka University hospital was authorized together with Nagasaki University to start lung transplantation in Kyusyu at 2005. The first brain dead- and living related lung transplantation was carried out successfully at Fukuoka University in 2006. This is a first registry report of the Fukuoka University Lung Transplant Program during the year of 2005-2015.

Patients and Method: Forty nine candidates were registered and listed for lung transplantation from the brain dead donor (LTx-BDD) at Fukuoka University Hospital during May 2005 to May 2015. The average age was 45.8 years old, and the male to female ratio was 32:17. Twenty candidates were enrolled from outside prefecture of Fukuoka (40.8%). As for the underlying disease, indication for lung transplantation were the followings; idiopathic interstitial pneumonias (IIPs) and other interstitial pneumonia, 30 (61.2%); pulmonary lymphangioleiomyomatosis (LAM), 7 (14.3%); pulmonary emphysema, 4 (8.2%).

Result: Among 49 registered candidates, 16 patients were performed LTx-BDD, and the other two patients were done lung transplantation from living donor (LTx-LD) because functional deterioration after LTx-BDD registration was extremely rush so that waiting for donation from brain dead donor was thought to be unrealistic within the limited time frame. LTx-LD were also performed for other two patients without LTx-BDD registration, thus total 20 lung transplants (16 LTx-BDD and 4 LTx-LD) were performed during this period. Twenty-one candidates deceased because of the deterioration of primary pulmonary or other concomitant diseases (42.9%). There were two deaths (1 LTx-BDD and 1 LTx-LD) within 30 days after surgery. Major postoperative complications occurred in 8 patients with a morbidity rate of 44.4%. Those included 5 infectious complications, 2 bronchial anastomotic stenosis, and 1 stenosis at pulmonary artery anastomosis. Among 18 perioperative survivors, 15 cases were completely recovered and returned to normal life without oxygen therapy (75%). There were four late deaths and overall survival rate of those 20 cases at 1 and 5 years was 73.4 and 56.6%, respectively.

Conclusion: Major indication of lung transplant candidate at Fukuoka University Hospital was idiopathic interstitial pneumonia. According to the patients who were performed LTx-BDD or -LD, more than 50% of patients were IIP's disease. Long term survival of entire cases at 5 years of 56.6% was similar to international registry report. However Japanese national registration data including all 9 institutes demonstrated superior result rather than international data with the 5 year survival of 73.7% currently. Thus, strong effort to follow this superior result is expected for each hospital especially newly registered institutes.

Key words: Lung Transplantation, Brain death, Brain dead donor, Living donor, Pediatric lung transplantation