

Ten years single lung transplantation : how do twinned lungs help.

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Introduction

Lung transplantation is the only treatment for end stage respiratory disease. Organ shortage can be minimized in single lung transplantation as a same donor enables to treat two different recipients. This case defines the twinned lung transplantations. Outcome will be dependent of the graft quality but also of recipient factors especially type of respiratory disease itself. Regarding equal quality between right and left lung retrieved from the same donor, direct influence of the recipient factors on their own lung transplantation can be studied with more accuracy.

Methods

On agreement of the main French lung transplantation centers, single lung transplantation activity was extracted from the French national database. All twinned lung transplantations performed between 1998 to the end of the year 2007 were recorded to report clinical and biological data from donors and recipients. Survival and mortality dependent from the side of transplantation and the respiratory disease were reported. Univariate and multivariate analysis of all collected clinical and biological data were to be done to study the influence of recipient characteristics on the outcome of transplantation

Results

Between 1998 and 2007, 156 twinned lung transplantations representing 46% of the whole national single lung transplantation activity were performed. Fibrosis and COPD/emphysema represented 38,5% and 39,1% of all transplantations. Perioperative mortality and 90 days mortality were respectively 9,4% and 10,6% for fibrosis, 4,4% and 5% for COPD/emphysema, 7,2% and 7,8% for left lung transplantation and 9,4% and 11,1% in right lung transplantation. Only 23 primary graft dysfunction and early acute rejection were reported, eight of them occurred in the same pairs probably due to the influence of graft qualities impairing the outcome of transplantation.

Conclusion

This is the first large enough study on paired lung recipients to confirm the influence of particular characteristics of recipients on the outcome of their transplantation. These could not be demonstrated before probably because of too low number of studied patients resulting in conflicting conclusions. Future perspective could be to establish a predictive risk factor score before transplantation based on the study of twinned lung transplantation to be validated with the results of non-twinned single lung transplantation.