



Opinion

# The use of aerosolized - Adrenergic agonist therapy after lung transplantation in pediatric age

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It is my opinion the use of aerosolized -adrenergic agonist such as salbutamol may be helpful not only to reduced the early mortality but also the chronic allograft dysfunction after lung transplantation in children. The reduction of pulmonary edema could be prevent the induction of Obstructive Bronchiolites Syndrome (less pneumonia and viral infections etc) such as the primary graft dysfunction. As we know by international literature Lung transplantation continues to suffer from less-than-ideal long-term outcomes, even in pediatric patients. Pediatric age recipients post-transplant survival is better for patients aged <12 years than for patients aged 12-17 years (median survival of 6.5-8.2 and 4.8 years, respectively). Reflecting the relatively high perioperative and early mortality after lung transplantation there is a large discrepancy between overall and 1-year conditional survival for lung transplant recipients. Conditional median survival is 9.7-11.2 years for patients aged 0-11 years and 7.7 years for patients aged 12-17 years [1,2]. The use of aerosolized-adrenergic agonist therapy reduces pulmonary edema following lung surgery. Several experimental studies have provided convincing evidence that 2-adrenergic agonist therapy can accelerate the removal of alveolar edema fluid in both normal and injured lungs, primarily by a cyclic adenosine monophosphate-mediated increase in the vectorial transport of sodium and chloride across both alveolar epithelial type I and type II cells [3,4]. These findings provide striking evidence that short-term use of aerosolized 2-agonists can enhance the resolution of pulmonary edema, even when administered to nonintubated patients.

We used successfully aerosolized salbutamol in a child 3 yrs old , a female with a complex congenital heart disease undergone several cardiac operations. After Mechanical assistance support she undergone iHeart and Lung transplantation, after 2 weeks she had numerous complications such as tracheostomy, increase of panel reactive antibodies (PRA) and an important reduction of lung function. Maintenance She was since transplantation treated with inhibitor of calcineurine (FK56) i.v, steroids i.v and oral mycophenolate mofetil. She also due elevated PRA was underwent three cycles of plasmapheresis, associated aerosolized salbutamol three once/day (0,15 mg/kg each cycle).

Now the child is discharged with an optimal lung function (removed tracheostomy) and she is at home

## Discussion

Lung or heart lung transplantation in child is a very complex "life strategy", infections, pulmonary lung dysfunction and rejection are the most causes of death. The use of aerosolized salbutamol help lung ventilation.

## References

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