

Case-Report

Volume 13 Issue 1 - February 2019
DOI: 10.19080/JOCCT.2019.13.555855

J Cardiol & Cardiovasc Ther

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Pulmonary Vascular Resistance (PVR) Late after Heart Transplant in Patients with Higher Preoperative Pulmonary Hypertension and Influence on Survival-A Study from India



Ratnagiri Ravi Kumar* and Prabhat Dutta

Department of Heart and Lung Transplantation, Gleneagles Global Hospital Chennai, India

Submission: January 18, 2019; Published: February 26, 2019

*Corresponding author: R Ravi Kumar, Department of Heart and Lung Transplantation. Gleneagles Global Hospital, 439, Cheran Nagar, Chennai, India

Keywords: Pulmonary vascular resistance; Pulmonary hypertension; Pulmonary compliance; Pulmonary hemodynamic; Heart transplantation; Right heart failure

Introduction

The Impact of Higher pre-operative Pulmonary vascular resistance and persistent Post-operative Pulmonary Arterial Hypertension (PAH) or pulmonary Compliance (Pca) on the Early Mortality or late Morbidity and Survival after a Successful Heart Transplantation is not well defined.

Methods

We studied 12 Patients who underwent Successful heart Transplant with High Pre-operative Pulmonary pressures - defined as PA systolic pressure more than 50 mm Hg but with Transpulmonary Gradient less than 16 mm hg after Vasodilator testing, for analysis of Pulmonary hemodynamic parameters like Pulmonary Vascular Resistance, (PVR) and Pulmonary Compliance(Pca) early (one month) and one Year after Heart Transplantation along with Survival at 6 months and one year. These 12 patients were statistically compared with 25 patients who had preoperative PA systolic pressures less than 50mm hg 11 of above patients were on both Sildenafil and Ambrisentan for PAH [1].

Results

Age range was, Females = 1, Males = 17, Mean CPB time in These high PAH patients = 140 minutes, Mean Preoperative PA Systolic pressures = 58.80 mm (78-50 mm hg), Mean Pre-operative PVR = 4.1 wood units, Mean preoperative PA compliance = 1.02 (1.47-0.79). At three Months Mean PA Sytolic pressures = 38 MM HG, mean PVR =3.5 WU, Mean PA compliance =0.9. Of the 8 patients

who completed 1 year of study, Mean PA systolic pressures = 35 MM HG, mean PVR = 3.5, Mean PA compliance = 0.85 UNITS. 87% of the Total patients were alive at 1 year. 93 % of the High PAH group were alive at 6 months after Transplantation [2,3]. There was No incidence of Clinical RV failure after Heart Transplant. There was 1 early Mortality related to Sepsis. Kaplan Meier analysis showed No difference in event free survival between the High PVR and Normal PVR group (p value = 0.7; NS) [4,5] Figure 1.

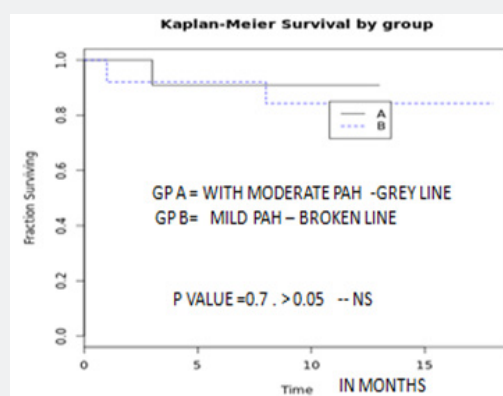


Figure 1: Statistics

Chi square statistic: 0.147212

degrees of freedom: 1 This is the number of groups, minus 1

p-value: 0.701214

Low p-value, below a pre-set critical value such as 0.05.

Conclusion

30% of Patients had persistent pulmonary Hypertension one month after heart Transplant and 15% had persistent PAH one Year after heart Transplant. But this factor does not seem to be associated with Right heart failure or reduced survival. Above Findings might have been positively influenced by Anti PAH drugs like Ambrisentan or Sildenafil given Pre-operatively.

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DOI: [10.19080/JOCCT.2019.13.555855](https://doi.org/10.19080/JOCCT.2019.13.555855)

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