Table S1. Contingency tables for the frequencies of chronic and acute rejection grades.

Table S1.1[a,d]	CR0	CR1	CR2
A0	2	0	0
A1	0	0	0
A2	0	1	0
A3	0	0	4
A4	0	2	1

Table S1.2[b,d]	CR0	CR1	CR2
B0	2	0	0
B1R	0	1	2
B2R	0	3	4

Table S1.3[c,d]	B0	B1R	B2R
A0	2	0	0
A1	0	0	0
A2	0	1	0
A3	0	2	3
A4	0	0	3

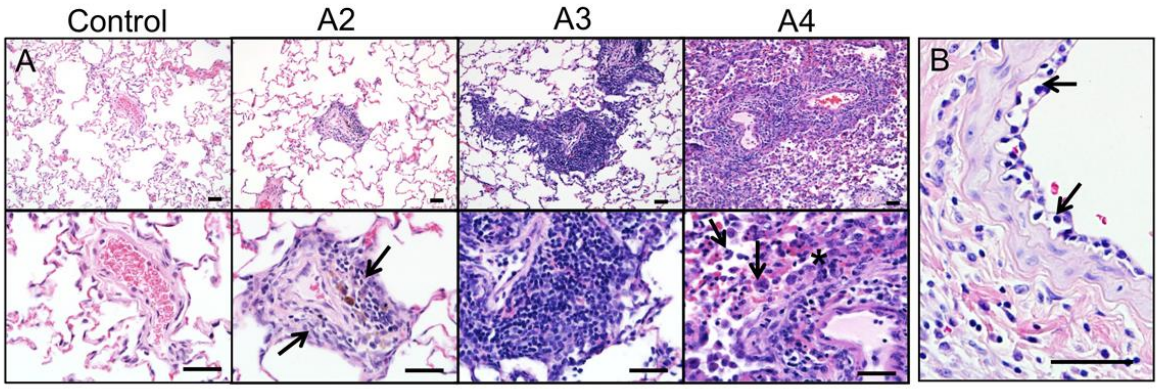
[a] Contingency table showing the frequencies of animals found with the various severities of acute vascular rejection vs the various severities of chronic small airway rejection.

[b] Contingency table showing the frequencies of animals found with the various severities of acute airway rejection vs the various severities of chronic small airway rejection.

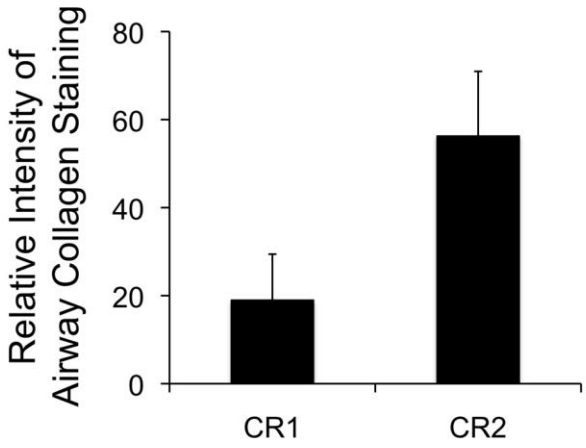
[c] Contingency table showing the frequencies of animals found with the various severities of acute vascular rejection vs the various severities of acute airway rejection.

[d] To determine if the severity of chronic rejection was related to the severity of acute rejection, we performed Fisher's exact tests on these contingency tables using R version 2.14.1. Indeed, there is a significant relationship between the severity of acute vascular rejection and the severity of chronic rejection (P=0.0048). The relationship between acute airway rejection and chronic rejection was not significant (P=0.0707). As anticipated, the relationship between acute vascular and acute airway rejection was highly significant (P=0.0245).

Figure S1



Supplemental Figure S1: Representative photomicrographs of acute lung rejection grading following the grading system adopted by the International Society for Heart and Lung Transplantation. (A) Lungs scored A2 (mild acute rejection) had perivascular infiltrates of mononuclear cells including lymphocytes, monocytes with fewer eosinophils and plasma cells (arrows). Lungs scored A3 (moderate acute rejection) were characterized by perivascular cuffs of similar inflammatory cells that extended into the alveolar septa. Lungs scored A4 had diffuse perivascular and interstitial infiltration of lymphocytes, macrophages with fewer eosinophils and neutrophils (arrows). Additionally there was multifocal type II pneumocyte hyperplasia (asterisk) and alveoli had increased macrophages. (B) Subendothelial infiltrates of lymphocytes (endothelialitis) were occasionally noted. (A and B, Bar=50µm).



Supplemental Figure S2: Collagen (fibrosis) was quantified on Masson's trichrome stained sections from CR1 and CR2 classification animals. Staining quantification was performed (ImageJ) on five of the most severely affected airways for each transplanted lung. The intensity of airway collagen staining was averaged for each lung evaluated (N=2 CR0, N=4 CR1, and N=5 CR2) and the average background staining from CR0 fully immunosuppressed lung samples were subtracted from CR1 and CR2 values. Staining was then normalized to the most intensely stained CR2 sample to reflect the relative staining associated with morphologic complete airway occlusion. CR2 lungs had higher airway collagen staining as expected with airway occlusion. This trend was not statistically significant due to the variability in time post-transplant.