

Micorarray and Bioinformatic analysis of gene expression in epithelial cell dysfunction in Cystic Fibrosis patients with Bronchiolitis Obliterans Syndrome.

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The project plan is to collect transbronchial lung biopsies bronchial biopsies and bronchial aveolar lavage from patients following lung transplant with a view to determining molecular mechanisms of rejection and obliterative bronchilitus. Obliterative bronchilitus is the major disease that limits the success of long term lung transplantation.

To date we have collected 12 transbronchial biopsies and 10 bronchial biopsies and 14 bronchial aveolar lavage.

We have obtained primary bronchial cells culture we've extracted the messenger RNA from these cells and we have subjected them to gene chip array analysis.

This has yielded interesting preliminary data our aim over the next year is to increase the numbers of patients included in the study and to increase the number of samples collected. This will allow a specific pattern to emerge and controls of such compounding factors as infection aspiration and normal gene expression.

By performing microarray, we will discover a number of genes implicated in the development of Oblitrative Bronchiolitis (OB). This novel technology will allow us to focus on key genes that might be fundamental to the development of OB. Ultimately by identifying the key drivers of this disease therapeutic targets can be developed which will impact positively on the survival of patients post transplant.