

# 6<sup>th</sup> Clinical Microbiology Conference

October 20-22, 2016 Rome, Italy

## *Pseudomonas aeruginosa* biofilm infections in the united airways of cystic fibrosis patients

Niels Høiby

University of Copenhagen, Denmark

Cystic fibrosis (CF) patients suffer from recurrent and chronic sinus and lung infections due to the basic defect of the CFTR protein, which is a chloride channel. This leads to decreased volume of the paraciliary fluid in the airways and impaired mucus detachment which interferes with the mucociliary transport and the consequence is therefore defective host defense against bacterial infections. *P. aeruginosa* is causing the most important chronic lung infection in CF and it was the first biofilm infection which was described in human beings and the most well studied biofilm infection. The inflammatory response dominated by polymorphonuclear leukocytes to the chronic infection is the main cause of the lung tissue damage. The antibody response against the sinus biofilm infections is mainly s-IgA which reduces the inflammation, whereas IgG dominates against the lung biofilm infection and aggravates the inflammation. The antibody response is used diagnostically. The current treatment is early aggressive eradication therapy of intermittent *P. aeruginosa* colonization to prevent chronic biofilm infection which is treated by chronic suppressive 'maintenance' therapy to maintain the lung function for decades. Both systemic and inhaled antibiotics are used.

### Biography

Niels Høiby is the Professor of Medical Microbiology at the University of Copenhagen and at Department of Clinical Microbiology at Rigshospitalet in Denmark. He was the first President of the European Cystic Fibrosis Society and was the Founder and Chairman of multiple societies, including the Scandinavian Society for Antimicrobial Chemotherapy, the ESCMID study group of Biofilms and the Biofilm Study Group of the Danish Society for Clinical Microbiology. He has published extensively in the area of chronic lung infection in CF and other biofilm infections. He has won multiple awards and honors throughout his career.

hoiby@dadlnet.dk

### Notes: