The Airway Microbiota pattern in Cystic Fibrosis

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Keywords (maximum 8): airway, Microbiota pattern, Cystic Fibrosis, bacterial species, independent-culture

Background: In cystic fibrosis (CF) patients, the mucus becomes thick, sticky, and an excellent place to cover with opportunistic bacteria and pathogens. Chronic infection of upper and lower airway plays a critical role in the mortality of CF. This study aimed to introduce the microbiota profile in infants, pediatrics, and adults.

Materials &Methods: In this study, the association of airway microbiota was described based on a literature review of studies that examined the alteration of airway microbiota by using different samples and methods to identified airway microbiome profile in patients with CF.

Results: *Streptococcus spp.* have more relative abundance in infants and pediatrics while *Pseudomonas spp.* have more relative abundance in adults with CF. Recently, molecular diagnostic methods can be more accurate in detecting microbial strains.

Conclusion: In CF disease, the microbiota profile of the airway could change across age and could have an association with inflammation. For the detection and isolation of most bacterial species, the sampling should be consist of the upper and lower airway mucus, and independent-culture besides standard culture methods is recommended.