



Impact of CFTR modulators on chronic and intermittent bronchi

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European Respiratory Journal 2025 66(suppl 69): PA3986; DOI: <https://doi.org/10.1183/13993003.cong>

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Abstract

Background: Sputum microbiology influences the prognosis of lung disease in people with CF. As CFTR modulators alter the bronchial microenvironment, we studied the effect of the introduction of CFTR modulators on intermittent mycobacterial and fungal bronchial infection.

Aim: The aim is to investigate the microbiological influence of CFTR modulators on bronchial infection r

Methods: It is a monocentric, retrospective study in which we collected all CF recognized pathogens in outcomes (number of exacerbations, FEV1, BMI, sex, age, genotype) in patients with CF treated by CFT before, until one year after the initiation of the treatment.

Results: We analyzed 136 patients (56 females) treated by all type of CFTR modulators (ivacaftor (I), lum tezacaftor-ivacaftor (TI) and elexacaftor-tezacaftor- ivacaftor (ETI). Median age was 21.5y (IQR: 14-34), m 20.75kg/m² (IQR: 17.33-23.78), median FEV1 was 90%PV (IQY: 67-100), median exacerbations/year was

Patients treated by ETI after one year had a statistically significant reduction of *Pseudomonas aeruginos* (17/136 versus 8/136, $p=0.0027$) and *Aspergillus fumigatus* chronic (9/136 versus 2/136, $p=0.0082$) and (14/136 versus 5/136, $p=0.0067$). Following I, LI and TI, patients had no reduction of chronic nor intermi airways.

All CFTR modulators increased FEV1, only LI, TI, ETI improved BMI and TI and ETI reduced exacerbation

Conclusions: We showed that ETI but no other CFTR modulators influenced favorably chronic bacterial intermittent fungal infection.

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