Title: Chronic obstructive pulmonary disease exacerbations: Impact of the GOLD stage or the presence of bronchiectasis on sputum microbiology

Body: Background: Patients with chronic obstructive pulmonary disease (COPD) have often infectious exacerbations. Microbiology seems to differ from one exacerbation to another. Does the GOLD stage or the presence of bronchiectasis have an impact on microbiology? Methods: We conducted this retrospective study on a cohort of COPD patients with at least two exacerbations with positive microbiology to compare the sputum microbiology and its evolution according to the GOLD stage and/or the presence of bronchiectasis. Results: Sixty COPD patients were included. Among them, 32 had a COPD stage IV, and 17 had bronchiectasis. In the whole cohort, microbiology differed from one exacerbation to another with the same proportions of Pseudomonas aeruginosa and community pathogens for each exacerbation, but in different patients. In the GOLD Stage IV patients, we found similar results with different microbiologies from one exacerbation to another. For patients with associated bronchiectasis, recurrence of Pseudomonas aeruginosa were often found from one exacerbation to another one. Conclusion: Excepted for patients with bronchiectasis, microbiology of infectious exacerbation of COPD patients, even for GOLD stage IV patients, differed from one episode to another.