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**Title:** Concordance between airway inflammation and health status in COPD patients with bacterial colonisation

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**Body:** Lower airway bacterial colonisation (LABC) is often seen in stable COPD patients, contributing to airway inflammation & health status impairment. We examined whether the degree of airway inflammation was related to health status measurements. Sputa collected from stable patients were analysed using qPCR to detect typical bacteria & ELISAs for airway cytokines. 99 patients completed 112 COPD Assessment Tests (CAT) and 74 St George's Respiratory Questionnaires (SGRQ). Clinical characteristics are shown in Table 1.

Baseline characteristics n=99

Mean (SD) Age (years)	72.1 (8.9)
Mean (SD) FEV1 (l)	1.32 (0.54)
Mean (SD) FEV1 (% predicted)	51.5 (21.6)

Airway inflammation was significantly higher LABC patients. Increasing CAT score was significantly related to higher total SGRQ (p<0.001). There was no significant difference in CAT or total SGRQ scores between non-LABC & LABC patients (Table 2). SGRQ impact score was statistically higher in non-LABC patients than those with LABC.

CAT and SGRQ scores

	non-LABC	LABC	p-value
Mean (SD) CAT	17 (7)	16 (7)	0.50
Mean (SD) SGRQ total	47 (13)	40 (15)	0.06
Mean (SD) SGRQ symptoms	62 (17)	59 (14)	0.40
Mean (SD) SGRQ activity	68 (17)	60 (24)	0.09
Mean (SD) SGRQ impact	30 (12)	23 (14)	0.03

There was no significant relationship between increasing CAT score, SGRQ & airway cytokines. In this COPD cohort, despite increased airway inflammation in LABC patients, no difference was seen in CAT or total SGRQ scores compared to patients without LABC. There was discordance between these symptoms & health status scores & levels of airway inflammation. Improvement of health status may require improving symptoms rather than solely targeting airway inflammation.