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Title: COPD as risk factor for mortality in CAP. Results from the German Competence Network, CAPNETZ

Ms. Dionne 18342 Braeken dionnebraeken@ciro-horn.nl ^{1,2}, Dr. Frits 18343 Franssen fritsfranssen@ciro-horn.nl MD ^{1,2}, Dr. Hartwig 18351 Schütte vorstand@capnetz.de MD ³, Prof. Mathias 18352 Pletz vorstand@capnetz.de MD ⁴, Prof. Robert 18353 Bals vorstand@capnetz.de MD ⁵ and Dr. Gernot 18355 Rohde g.rohde@mumc.nl MD ². ¹ Program Development Centre, Centre of Expertise for Chronic Organ Failure (CIRO+), Horn, Netherlands ; ² Department of Respiratory Medicine, Maastricht University Medical Centre (MUMC), Maastricht, Netherlands ; ³ Department of Respiratory Medicine, Charite, Berlin, Germany ; ⁴ Diseases and Infection Control, Jena University Hospital, Jena, Germany and ⁵ Internal Medicine V - Pneumology, Medical Centre of the Saarland University, Homburg, Germany .

Body: Background: The mortality of CAP remains high despite significant research efforts. Better knowledge about co-morbidities might help to improve management and ultimately survival. COPD is a common co-morbidity of patients with CAP. Conflicting results regarding impact of COPD on CAP severity and mortality rates have been reported. Objectives: Purpose was to identify the prevalence of COPD in an optimally characterized cohort of CAP patients, represented in the German competence network CAPNETZ and to assess clinical characteristics, CAP severity and mortality. Methods: We analysed 988 consecutively enrolled patients with CAP. Patients were analysed separately as CAP-only (N=787; 79.7%) and CAP-COPD (N=201; 20.3%) patients. Associations between CAP, COPD and mortality were evaluated by univariate analyses and Kaplan-Meier survival curves. Patients were followed up for 180 days. Results: CAP-COPD patients were significantly older, more often males, current and former smokers, with more pack years and higher CURB-65 scores. Length of stay, ureum, glucose and leucocytes were higher in CAP-COPD patients, as well as the number of patients with hypercapnia and acidosis. In addition, COPD patients had a higher 180 day mortality rate (p=0.058; OR = 1.91; 95% CI 0.97-3.75), compared with CAP-only patients. 180-mortality was associated with age and CURB-65 score in CAP-COPD. No differences were observed in 30 day mortality and cause of death. Conclusion: CAP in COPD patients is significantly more severe and long term mortality is twice as high as in non-COPD patients. COPD is a very important co-morbidity in CAP which warrants further research in order to improve the management of these patients.