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Title: Coronary calcium and epicardial adipose tissue in patients with chronic obstructive pulmonary disease

Dr. Jorge 4366 Zagaceta zagaz505@yahoo.es MD ¹, Dr. Javier 4367 Zulueta jzulueta@unav.es MD ¹, Dr. Gorka 4368 Bastarrika bastarrika@unav.es MD ², Dr. Inmaculada 4369 Colina icolina@unav.es MD ³, Dr. Ana B. 4370 Alcaide abalcaide@unav.es MD ¹, Dr. Arantza 4371 Campo acampo@unav.es MD ¹, Dr. Bartolome 4372 Celli bcelli@copdnet.org MD ⁴ and Dr. Juan P. 4373 de Torres jupa65@hotmail.com MD ¹.

¹ Pulmonary, Clínica Universidad De Navarra, Pamplona, Navarra, Spain, 31008 ; ² Radiology, Clínica Universidad De Navarra, Pamplona, Navarra, Spain, 31008 ; ³ Internal Medicine, Clínica Univeridad De Navarra, Pamplona, Navarra, Spain, 31008 and ⁴ Pulmonary and Critical Care Medicine, Brigham and Women's Hospital, Boston, MA, United States, MA 02115 .

Body: Rationale: Coronary Artery Calcium (CAC) and Epicardial Adipose Tissue (EAT) volume as determined by CT is an independent marker of cardiovascular events in the general population. Objectives: To assess CAC and EAT volume in COPD and explore its association with clinical and physiological variables of disease severity. Methods: We measured EAT and CAC using CT in 171 stable COPD patients and 70 controls matched by age, smoking history and BMI.

The variables studied are shown in Table 1. Uni and multivariate analyses explored the relationship between EAT volume and the COPD related variables. Results: COPD patients had a higher EAT volume (p=0.02) but found no difference in CAC (p=0.062). In COPD patients, EAT volume was associated with (Table 2): age, pack-years, BMI, gender, FEV₁%, 6MWD, MMRC and HTN.

Multivariate analysis showed that only pack-years, BMI and 6MWD, predicted EAT volume. Conclusions: EAT volume is increased in COPD patients and is independently associated with smoking history, BMI and exercise capacity. EAT volume could be a non-invasive marker of COPD patients at high risk for future cardiovascular events.