European Respiratory Society
Annual Congress 2013

Abstract Number: 1016

Publication Number: P417

Abstract Group: 1.1. Clinical Problems

Keyword 1: Chronic disease **Keyword 2:** Lung function testing **Keyword 3:** Longitudinal study

Title: Decline of the lung function and quality of glycemic control in type 2 diabetes mellitus

Dr. Leonello 11028 Fuso leofuso@rm.unicatt.it MD [1], Dr. Carola 11029 Condoluci carola_condoluci@yahoo.it MD [1], Dr. Emanuele 11030 Conte emanuele.conte_86@hotmail.it MD [1], Dr. Dario 11031 Pitocco dario.pitocco@rm.unicatt.it MD [2], Dr. Chiara 11032 Contu cfcontu@libero.it [1], Dr. Alessandro 11046 Rizzi dhdiabetologia@rm.unicatt.it MD [2], Dr. Benedetta 11049 Bibi benedetta.bibi@libero.it [1] and Prof. Raffaele 11054 Antonelli Incalzi r.antonelli@unicampus.it MD [3]. [1] Pneumology Unit, Catholic University, Rome, Italy ; [2] Diabetology Unit, Catholic University, Rome, Italy and [3] Departement of Geriatrics, Campus Biomedico University, Rome, Italy .

Body: This longitudinal study aimed to verify whether in type 2 diabetes mellitus (DM) the lung function decline is related to the quality of glycemic control (GC). Up to now 34 non-smokers DM patients (age 68 ± 9 years) without pulmonary diseases performed a complete respiratory functional assessment at baseline and after a follow-up of 4.8 ± 0.6 years. Patients with an average yearly value of glycosylated hemoglobin ≥ 7.5% at least in two years were considered to have a poor GC. The residual volume declined over time, but not significantly and without difference between patients with poor (n. 8) and good (n. 26) GC. Diffusing capacity for carbon monoxide (DLCO) significantly declined (p=0.003) but in a comparable extent in the two groups (poor GC: from 72.00 to 68.57% pred; good GC: from 87.44 to 80.64% pred; between groups difference p=0.99). The respiratory muscle strength, assessed by the maximal inspiratory pressure (MIP), declined in patients with a poor GC (from 83.37 to 76.37% pred), but not in those with a good GC (from 85.68 to 85.60% pred); however, the difference between the two groups was not significant (p=0.17). Similarly, the respiratory muscle endurance, assessed by the maximum voluntary ventilation (MVV), declined in patients with a poor GC (from 73.28 to 67.01 L/min) and slightly increased in those with a good GC (from 75.19 to 80.93 L/min) with a significant difference between the two groups (p=0.009). These preliminary results show that, in patients with DM, only the decline of respiratory muscle efficiency might be influenced by a poor GC, but this findings awaits for confirmation on a larger sample.