Please select Print from the file menu to print your Abstract.

European Respiratory Society Annual Congress 2013

Abstract Number: 851870

Contact/Presenting Author: Prof. Maria R Bonsignore
Date of Birth (dd/mm/yyyy): 01/03/1956
Is the presenting author a Medical Doctor (MD)? **Yes**
ERS Membership Number: 4052
Other Memberships:
ACCP - American College of Chest Physicians
ATS - American Thoracic Society
Other - AASM, ESRS

Department/Institution: DiBiMIS, Section of Pneumology, University of Palermo
Address: Via Trabucco 180
City/State/Zip/Country: Palermo, 90146, Italy
Phone: +393287538815 **Fax:** +390916882842 **E-mail:** marisa@ibim.cnr.it

Abstract Group: 4.1. Clinical respiratory physiology, exercise and functional imaging
Keyword 1: Exercise **Keyword 2:** Cell biology **Keyword 3:** Physiology
PRESENTATION TYPE: No preference selected.
You have only applied for the grants and/or sponsorships displayed below:
General Conflicts of Interests: The Presenting Author has no, real or perceived conflicts of interest that relate to this abstract.

Tobacco-Industry related conflict of interests: I have **NO** relationship of any kind with the tobacco industry (since 1/1/2000) nor will have a link to the tobacco industry before the event to which I have been invited by the ERS to participate in

Title: Similar cellular composition of induced sputum in Marathon and Half-Marathon runners

Prof. Maria R Bonsignore, marisa@ibim.cnr.it, MD[1,2], Dr. Rosalia Gagliardo, gagliardo@ibim.cnr.it[2], Dr. Alessandra Paterno', a.paterno@yahoo.it[1], Dr. Simonetta Bono, simonetta.bono@gmail.com[1], Dr. Loredana Riccobono, riccobono@ibim.cnr.it[2], Dr. Roberta Santagata, robertasant@katamail.com[1], Dr. Danila Rinoldo, rinoldodanila@libero.it[1], Dr. Michele Davì, m.davi1973@libero.it[1], Dr. Anna Bonanno, bonanno@ibim.cnr.it[2], Prof. Nicola Scichilone, nicola.scicilone@unipa.it, MD[1], Dr. Mirella Profita, profita@ibim.cnr.it[2] and Dr. Giuseppe Morici, gfme.morici@tin.it, MD[2, 3]. [1]DiBiMIS, Section of Pneumology, University of Palermo, Palermo, Italy, 90146; [2]IBIM, CNR, Palermo, Italy, 90146 and [3]BioNeC, Section of Physiology, University of Palermo, Palermo, Italy, 90134.

Body: In our previous studies, we reported increased neutrophil (PMN) differential counts in induced sputum of marathon (M) runners (Bonsignore et al, 2001). Conversely, increased bronchial epithelial cell (BEC) differential counts were found in half-marathon (HM) runners (Chimenti et al, 2010). To better understand the differences previously found between M and HM runners, we studied 11 non-asthmatic amateur athletes (HM n=6, M n=5, age: 44.5±6.7 yrs, race time: HM 101±18 min, M 218±35 min) participating to the 2012 Palermo Marathon. We collected induced sputum samples 4 to 5 days before the race (PRE), 2 hours after the race (RACE), and the following morning (POST). Induced sputum was processed according to the plug technique. Results are shown in the table (means±SD).

Differential cell counts of BEC and PMN in induced sputum

	PMN HM%	PMN M%	BEC HM %	BEC M%
PRE	19.0±14.5	24.3±20.3	3.9±7.7	0.3±0.5
RACE	47.8±19.9*	48.3±17.4*	28.4±13.8§	21.9±10.6§

POST	51.5±18.4*	50.7±11.3*	2.1±1.6	5.3±2.3

* p<0.05 vs PRE, § p<0.05 vs PRE and POST

In both HM and M runners, PMN differential counts increased from PRE to RACE and remained elevated in POST, whereas BEC differential counts increased from PRE to RACE, but returned to baseline at POST. These preliminary results indicate that BEC damage, possibly induced by hyperosmolar exposure during exercise hyperpnea, occurs for the entire duration of endurance exercise but is transient. Conversely, PMNs were recruited in the airways for a longer time, possibly secondary to chemiotactic stimuli released by BEC during exercise. Lack of differences between HM and M runners suggests that duration of the endurance race does not affect the airway cell response to exercise.

Close Window