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Abstract Number: 850528

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Abstract Group: 6.4. Genes and Environment
Keyword 1: COPD - mechanism **Keyword 2:** Occupation **Keyword 3:** Genetics
PRESENTATION TYPE: Yes, I would prefer to present my abstract, if accepted, as a poster.
You have only applied for the grants and/or sponsorships displayed below:
ERS Travel Grants for the Best Abstracts on COPD: Yes, please consider me for grant.
Sponsorship might make me possible to contribute a novel and (I hope) beneficial approach to prevention of at least dust-associated COPD and potentially fatal cardiovascular complications. I started dissertation researches using my own private funds. Thus, if my work is appreciated this will let me use this money in further additional study of interleukin-33, NO synthetases etc. genetic polymorphisms and other researches. Anyway I'll do my best to get to know truth ;)
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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: Surfactant protein C genetic polymorphism in patients with occupational COPD is associated with right ventricle changes

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Body: Background: Individual peculiarities are taken into account in development of chronic obstructive pulmonary disease (COPD). The role of surfactant protein C (SFTP-C) genetic polymorphism is known in development of irreversible bronchial obstruction component as most typical feature of COPD. However, relation of SFTP-C to cardiological consequences of COPD was not studied enough.
Aims and objectives: Investigation of relation of SFTP-C genetic polymorphism with development of right heart hypertrophy and dysfunction, estimation of prophylactic potential of clinical-genetic investigation in workers exposed to dust.
Methods: In 42 male Caucasian workers from machine-building industry 51,3±14,42 years old COPD of 2nd stage according to GOLD (2010) was diagnosed. Genotypes of SFTP-C: A138C and A186G were investigated in polymerase chain reaction with following mass spectrometry analysis. Morphofunctional state of heart was defined echocardiographically.

Results: It was stated that A138C and A186G polymorphisms of SFTP-C gene are connected with right heart changes. E.g., CC genotype is associated with right ventricle hypertrophy, GG genotype – with

decrease of right ventricle pre-expulsion ($p<0,01$). This may be explained by determinant role of certain SFTP-C phenotypes in pulmonary fibrosis, emphysema, further disturbances of circulation and increased right ventricle pre-load.
Conclusions: Evaluation of SFTP-C genetic polymorphism in workers of dust-related occupations has a perspective of introduction as a prognostic marker in prophylaxis of COPD cardiovascular complications.

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