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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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**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 2<sup>nd</sup> 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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