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**Title:** Approach to the diagnostics of early carbon metabolism disorders and diabetes mellitus 2 type in COPD patients

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**Body:** Aim. Perfection of carbon metabolism disorder (CMD) diagnostics in patients with COPD and bronchial asthma (BA), considering the hypothesis that COPD play significant role in CDM development. Methods. Confirmed diabetes mellitus 2 type (DM<sub>2</sub>) prevalence in 350 COPD and 247 BA patients was studied as well as COPD and BA prevalence in 400 patients with DM<sub>2</sub> within the age limit up to 60. Actual DM<sub>2</sub> prevalence was studied using standard peroral glucose tolerant rest in 80 COPD patients of the same age with and without obesity (18 and 62 patients respectively) in whom fasting blood glucose level was normal. Population parameters of the registered DM<sub>2</sub> prevalence (3%), COPD (2.6%), BA (6.1%) and actual prevalence of DM<sub>2</sub> (15.3%) were used as controls. Results. COPD patients showed confirmed DM<sub>2</sub> prevalence more three times higher than in controls (p<0.01). Unlike COPD in patients with BA this parameter was quite similar to that in the control group (p>0.05), while in BA patients it was significantly lower than in controls (p<0.001). Actual DM<sub>2</sub> prevalence in COPD patients was also significantly higher comparing with the corresponding control values independent on presence or absence of obesity, 2 and 1.5 tames respectively. COPD patients without obesity and patients with obesity but without COPD showed no significant difference (p<0.05 and p<0.001). Conclusion. 1. COPD is a significant risk factor in glucose tolerance and DM<sub>2</sub> disorders development. 2. Sugar burden in COPD patients improves CMD diagnostics in COPD patients independent on fasting blood glucose level. 3. BA is not involved in DM<sub>2</sub> development.