

## **METABOLISM OF ADIPOKINS IN PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE DEPENDING ON NUTRITIONAL STATUS**

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Many studies proved the role of leptin, adiponectin and resistin in exacerbations of COPD and its stable period. Recently, there have been a growing interest to the role of zinc- $\alpha$ 2-glycoprotein because it has a lipolytic effect and plays a potential role in obesity.

**Objective.**To study the metabolism of adypokins in acute exacerbation of COPD depending on nutritional status.

**Material and methods.** The study involved 45 COPD patients with obesity, overweight, underweight and normal body mass index (BMI) and 15 control group. The serum level of leptin, adiponectin, zinc- $\alpha$ 2-glycoprotein were determined by ELISA (Diagnostics Biochem Canada Inc, Canada, Assay, USA, BioVendor - laboratorni medicina as Karasek 1767/1 Czech Republic).

**Results.** The level of leptin in acute exacerbation of COPD was higher ( $10,64 \pm 1,81$  in underweight patients to  $54,91 \pm 5,92$  in obesity patients) compared to control group ( $p < 0.05$ ). Adiponectin was the lowest in COPD patients with obesity ( $4,81 \pm 0,41$ ). In COPD patients with underweight adiponectin level was quite high ( $19,39 \pm 2,09$ ), especially compared to patients with overweight and obesity (61,8% and 68,6%,  $p < 0.05$ ). Increase of zinc- $\alpha$ 2-glycoprotein was most significant in patients with underweight ( $84,12 \pm 10,00$ ). There was established the inversely proportional correlation between zinc- $\alpha$ 2-glycoprotein and BMI ( $r = -0,63$ ,  $p < 0,001$ ), muscle mass ( $r = -0,38$ ,  $p < 0,01$ ), fat mass ( $r = -0,52$ ,  $p < 0,001$ ) and the level of visceral fat ( $r = -0,57$ ,  $p < 0,001$ ).

**Conclusions.** Chronic obstructive pulmonary disease in exacerbation is characterized by an imbalance of adypokins, depending on the nutritional status of the patient.