

THE RELATIONSHIP BETWEEN ANTHROPOMETRIC PARAMETERS OF FAT MASS CONTENT AND ITS DISTRIBUTION WITH RESULTS OF PULMONARY FUNCTION TESTING IN EXTREMELY FAT WOMEN

Abstract: In obesity, particularly with abdominal distribution of fat tissue, various pulmonary functions disorders may appear, out of which some may even have a fatal outcome. This study examines the relationship between the anthropometric indicators of the degree and the specific distribution of fat tissue, and the parameters of the pulmonary function.

The study was carried out in a group of 35 extremely obese women (BMI: 39,3 kg/m²). Out of the following anthropometric parameters were determined: Body Mass Index (BMI), waist circumference and sagittal abdominal diameter (SAD) and the total fat mass content was determined by bioelectric impedance method (BIA). In order to evaluate pulmonary function the forced expiratory volume in 1st second (FEV₁%), the forced vital capacity (FVC), the peak of the expiratory flow (PEF) and the arterial blood gas analyses were used.

The results show that the women in the examined group had a mild hypoxemia. BMI correlates poorly negative with FEV₁ (r=-0,371), PEF (r=-0,383) and positive with PaCO₂ (r=0,399). The fat mass content shows minor positive correlation with FVC (r=0,261). Among the anthropometric parameters of intraabdominal fat mass accumulation, SAD shows low negative correlation with PEF (r=-0,362).

Considering that the changes in soft tissue structures of oral cavity and pharynx, as well as the appearance of fat depots on the neck, have a role of pathophysiology in sleep apnea syndrome, the evaluation of oropharyngeal region should be proposed, as well as the new anthropometric parameter such as a neck circumference might be used.

Key words: Obesity, adipose tissue, pulmonary function