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Title: Effects of abdominal visceral obesity measured by bioelectric impedance analysis on lung function

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Body: While many studies suggest the impact of obesity on lung function, studies of abdominal visceral obesity on lung fuction provide inconclusive informations. The aim of this study was to investigate the association of abdominal visceral fat mesured by bioelectrical impedance analysis and changes in lung functoin. We included never-smokers between the ages of 18 and 80yr, who had undergone spirometry and abdominal adipose tissue analysis with bioelectrical impedance analysis during March 1, 2008 to December 31, 2010 as part of the health examination. Among a total of 67,368 participants, 54.3% were male. The mean body mass index and waist circumference among males and females were 24.8 kg/m^2 and 87.3cm and 23.1 kg/m^2 and 83.2 cm, respectively. Although total adipose tissue of the abdomen in males was similar to that in females, the ratio of visceral adipose tissue/total adipose tissue was statistically different. In males, total abdominal adipose tissue and visceral adipose tissue were inversely associated with the value of forced vital capacity(FVC) and forced expiratory volume in one second(FEV1). In females, total abdominal adipose tissue and visceral adipose tissue, but not subcutaneous abdipose tissue, were inversely associated with absolute FVC and FEV1 values. In conclusion, abdominal visceral obesity is inversely associated with lung function.