Abstract

Introuction Visceral fat accumulation is associated with several changes, such as, increased production of inflammatory biomarkers, especially, C-reactive protein (CRP) and fibrinogen. Anthropometric measurements for central adiposity evaluation, such as, waist circumference (WC) and sagittal abdominal diameter (SAD) have been highlighted. However, there is no consensus on the best anatomical site for measurement. Objective To evaluate the reliability of different measurements of WC and SAD and verify their capacity to discriminate changes in inflammatory biomarkers. Method: 130 men (20-59 years) were assessed, having measurements of weight, height, WC and SAD. It was considered as the cutoff point for high-sensitivity CRP (hs-CRP) values  0.12 mg/dL and for fibrinogen the 50th percentile of the evaluated sample. Results All measurements presented an intraclass correlation coefficient between 0.998 and 0.999. WC measured at the umbilical level (AUC=0.693±0.049) and the smallest circumference between the thorax and the hips (AUC=0.607±0.050) had greater ability to discriminate changes in concentrations of hs-CRP and fibrinogen, respectively. SAD (umbilical level) showed the better ability to detect changes in concentrations of hs-CRP (AUC=0.698±0.049) and fibrinogen (AUC=0.625±0.049), according to the ROC analysis (p<0.05). Conclusion WC (smallest circumference between the thorax and the hips) and SAD (umbilical level) are the anatomic sites of measurement for use in predicting the inflammatory risk in apparently health men.

Keywords

Key words, Waist circumference, Sagittal abdominal diameter, Abdominal obesity, C-reactive protein, Fibrinogen.