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CENTRO MÉDICO SEXOLÓGICO

Relation between body mass index, waist circumference, body fat and visceral fat with sex steroid hormones.

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Obesity is an issue that is increasingly affecting ageing men. With ageing, there is a decline in androgens as well . Visceral fat more than body fat is closely related to lifestyle related diseases such us hypertension, diabetes, hyperlipidemia and hypogonadism. Cross-sectional data suggest that it is associated with decreased production of testosterone. It has been hypothesized that there is increased aromatization of testosterone to estradiol and alteration of the hypothalamic-pituitary-adrenal axis in obese ageing men.

Our objective was to examine the relation of obesity (body mass index (BMI) > 30 kg/m2), of central obesity (waist circumference > 100 cm), of body fat (> 20%) and of visceral fat (> 10%) to change in sex steroid hormones in men.

METHODS: One hundred men with complete anthropometry and sex hormone level were included betwen April and July of 2008 from consulting in Uruguay. Free and total testosterone (FT and TT), were assessed at 10:00 AM. Health behaviours and medical history were obtained by structured interview. Body Composition Monitor was used to define the visceral and body fat. It estimates the percentage by the Bioelectrical Impedance method along with the electric resistance, weight, age and gender information. The dual energy x ray absorptiometry method uses two different frequency X rays and rates of absorption of the body to determinate the value based on the difference between the two. Repeated measures regression was used to describe trends in steroid hormones in relation to obesity status, adjusting for age, smoking, alcohol, chronic illness, and physical activity.

RESULTS: Visceral fat rather than body fat or BMI was associated with decreased levels of total and free testosterone.

CONCLUSIONS: Viseral Fat may predict greater decline in testosterone levels with age than central obesity or body mass index. Further studies in this field are recommended to evaluate the clinical impact of nutricional factors in sex hormones.