Associations between visceral adipose tissue, inflammation and sex steroid concentrations in men

Titre	Associations between visceral adipose tissue, inflammation and sex steroid concentrations in men
Type de publication	Article de revue
Auteur	Gautier, Alain [1], Bonnet, Fabrice [2], Dubois, Séverine [3], Massart, Catherine [4], Grosheny, Catherine [5], Bachelot, Anne [6], Aubé, Christophe [7], Balkau, Beverley [8], Ducluzeau-Fieloux, Pierre-Henri [9]
Editeur	Wiley
Type	Article scientifique dans une revue à comité de lecture
Année	2012
Langue	Anglais
Date	2012
Numéro	3
Pagination	373 - 378
Volume	78
Titre de la revue	Clinical endocrinology
ISSN	1365-2265
Mots-clés	Adult [10], Aged [11], Estradiol [12], Humans [13], Inflammation [14], Interleukin-6 [15], Intra-Abdominal Fat [16], Male [17], Middle Aged [18], Steroids [19], Testosterone [20]

Résumé en anglais	CONTEXT: In men, obesity and the metabolic syndrome are accompanied by decreased testosterone levels, but little is known about the associations between visceral adipose tissue (VAT), VAT-related inflammation and sex steroids.OBJECTIVE: To examine the relative impact of VAT, abdominal subcutaneous adipose tissue (SAT) and interleukin 6 (IL-6), a marker of VAT-induced inflammation, on testosterone (T) and 17β-oestradiol (E2) levels in dysmetabolic men. METHODS: We study the NUMEVOX cohort of 229 men, aged 27-77 years, who all had at least one metabolic syndrome criterion (on average three). IL-6, C-reactive protein, Homeostasis Model Assessment of (HOMA) insulin resistance index (HOMA-IR), liver enzymes, E2, LH, sex hormone-binding globulin (SHBG), T, waist circumference and body mass index (BMI) were measured; bioavailable testosterone (BT) was calculated from T and SHBG; MRI-assessed VAT and SAT were analysed in 109 of these men. RESULTS: Visceral adipose tissue was strongly correlated with E2 (Spearman r = 0.38, P < 0.001) and with BT/E2 ratio (r = -0.42, P < 0.001), while SAT was not correlated with either. IL-6 was correlated with E2 (r = 0.19, P = 0.007), BT (r = -0.19, P = 0.006) and BT/E2 ratio (r = -0.30 P < 0.001). In multivariate linear analysis, the relation between VAT and E2 was independent of age, BMI (P = 0.008), leptin (P < 0.001), T and SHBG. Log(IL-6) was significantly inversely related with log(BT) (P = 0.032) independently of age, VAT, leptin and HOMA-IR. CONCLUSIONS: 17β-oestradiol levels were positively associated with VAT, but not with SAT, while T and BT were negatively and independently associated with IL-6. The significant inverse association between IL-6 and T suggests an important role of low-grade visceral fat inflammation in the central hypogonadism associated with the metabolic syndrome.
URL de la notice	http://okina.univ-angers.fr/publications/ua281 [21]
DOI	10.1111/j.1365-2265.2012.04401.x [22]
Lien vers le document	dx.doi.org/10.1111/j.1365-2265.2012.04401.x

Liens

[1] http://okina.univ-angers.fr/publications?f[author]=845
[2] http://okina.univ-angers.fr/publications?f[author]=617
[3] http://okina.univ-angers.fr/publications?f[author]=711
[4] http://okina.univ-angers.fr/publications?f[author]=846
[5] http://okina.univ-angers.fr/publications?f[author]=847
[6] http://okina.univ-angers.fr/publications?f[author]=848
[7] http://okina.univ-angers.fr/ch.aube/publications
[8] http://okina.univ-angers.fr/publications?f[author]=547
[9] http://okina.univ-angers.fr/p.ducluzeau/publications
[10] http://okina.univ-angers.fr/publications?f[keyword]=1002
[11] http://okina.univ-angers.fr/publications?f[keyword]=1072
[12] http://okina.univ-angers.fr/publications?f[keyword]=1353
[13] http://okina.univ-angers.fr/publications?f[keyword]=991
[14] http://okina.univ-angers.fr/publications?f[keyword]=1000
[15] http://okina.univ-angers.fr/publications?f[keyword]=1354
[16] http://okina.univ-angers.fr/publications?f[keyword]=6037
[17] http://okina.univ-angers.fr/publications?f[keyword]=968
[18] http://okina.univ-angers.fr/publications?f[keyword]=5941
[19] http://okina.univ-angers.fr/publications?f[keyword]=1355
[20] http://okina.univ-angers.fr/publications?f[keyword]=1356

[21] http://okina.univ-angers.fr/publications/ua281
[22] http://dx.doi.org/10.1111/j.1365-2265.2012.04401.x