T3:PS.30

Capsaicin, a spicy component of hot peppers, attenuates obesity-induced inflammatory responses and insulin resistance.

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Adipokines are involved in the obesity-induced chronic inflammatory response that plays a crucial role in the development of obesity-related pathologies such as type II diabetes and atherosclerosis. We here demonstrate that capsaicin, a naturally occurring phytochemical, can suppress obesity-induced inflammation by modulating adipokine release from and macrophage behavior in obese mice adipose tissues. Capsaicin inhibited the expressions of IL-6 and MCP-1 mRNAs and protein release from the adipose tissues and adipocytes of obese mice, whereas it enhanced the expression of the adiponectin gene and protein. The action of capsaicin is associated with NF-κB inactivation and/or PPARγ activation. Moreover, capsaicin suppressed not only macrophage migration induced by the adipose tissue-conditioned medium, but also macrophage activation to release proinflammatory mediators. *In vivo* experiment, dietary supplement of capsaicin significantly decreased the expression levels of MCP-1 and IL-6, and macrophage accumulation and increased the expression of adiponectin in adipose tissue of the obese mice compared with those of the control. Moreover, capsaicin improved the impairment of glucose tolerance in the obese mice. Capsaicin may be a useful phytochemical for attenuating obesity-induced inflammation and obesity-related complications such as insulin resistance.

T3:PS.32

Does low grade inflammation influence the relationship between hemostatic and fibrinolytic markers and visceral adipose tissue?

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Aims: To investigate whether the relationships between visceral adipose tissue (VAT) and markers of hemostasis and fibrinolysis are independent of low-grade inflammation.
Methods and Results: Fibrinogen, von Willebrand factor antigen (vWF:Ag) plasminogen activator inhibitor-1 (PAI-1) and high-sensitive c-reactive protein (hs-CRP) were determined in a group of 292 non-diabetic overweight and obese women. A CT-scan (L4-L5) was performed to estimate the amount of visceral adipose tissue (VAT). Fibrinogen levels were significantly higher in subjects with high levels of hs-CRP (median value; p<0.001), while differences in vWF:Ag (p=0.058) and PAI-1 activity levels (p=0.088) were borderline significant. After correction for hs-CRP, VAT was not related to fibrinogen levels (r=0.10; p>0.05), while there was a significant relationship with vWF:Ag (r=0.18; p<0.01) and PAI-1 activity levels (r=0.34; p<0.001). In multiple regression analysis, hs-CRP was the only independent determinant of fibrinogen (r²=0.19; p<0.001), but did not determine levels of vWF:Ag or PAI-1.
Conclusion: In this group of pre- and postmenopausal women, the relationship between VAT and fibrinogen probably is just a marker of the relationship of both factors with inflammation, while the relationship between PAI-1 and VAT is independent of inflammation. Levels of vWF:Ag are only modestly related to inflammation and VAT.

T3:PS.31

Is epicardial fat an indicator of central adiposity in overweight children?

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Visceral adipose tissue is recognized as an independent risk factor for metabolic syndrome in adults. Estimation of abdominal obesity by anthropometry is frequently imprecise, particularly in children. The study aim was to estimate whether epicardial fat (EF) measured by transthoracic echography correlates with waist circumference and metabolic syndrome components in overweight children. In 52 overweight children (23M, 29F) in the mean age 11.6 ±2.87 years and in 61 normal weight healthy children (24M, 37F) in the mean age 13.4±2.13 years, measurements of EF thickness on the right ventricle was obtained by two-dimensional M-mode echocardiogram . In all children weight status was assessed according to IOTF criteria and their waist circumference was measured. Fasting total cholesterol (TCh), HDL-cholesterol (HDL), triglycerides (TG) and insulin (Ins) were measured, LDL-cholesterol (LDL) was calculated and systolic (SBP) and diastolic blood pressure (DPS) were measured in overweight children. In overweight children EF thickness was 5.52 mm (4.97-6.07 95%CI) vs 2.53 mm (2.32-2.74 (95% CI) in non-overweight, the difference being statistically significant (p<0.0001). EF significantly correlated with weight, BMI, BMI z-score and waist circumference (p<0.0001). There was no correlation between EF and TCh, HDL, LDL, TG, Ins, SBP and DPS, in model adjusting for of weight, age and sex.
It is concluded that although epicardial fat in overweight children shows a strong correlation with BMI and waist circumference it does not seem to be independent predictor of metabolic syndrome in this age group.

T3:PS.33

Serum levels of aminotransferases and γ-GT in obese patients

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Introduction: Nonalcoholic fatty liver disease (NAFLD) is a common liver disorder and one of the major causes of chronic liver disease, specially in western world.
Objectives: To access if there is an association between the presence of metabolic syndrome (MS) and elevation of either gamma-glutamyltranspeptidase (γ-GT) or aminotransferase levels.To determine whether any hepatic enzyme is independently related to any of the metabolic syndrome (MS) criteria.
Design and Methods: A total of 229 obese women were evaluated in their first obesity medical appointment. Anthropometric variables, blood pressure, fasting plasma levels of glucose (Glu), HDL-C, triglycerides (TG), aminotransferases and γ-GT were measured. The presence of MS was based on IDF-2005 criteria.
Results: The patients had mean age of 41±11 years and mean BMI of 45.4±6.4Kg/m². It was found elevation of at least one of the hepatic enzymes in 41.9% of the women: 15.6% had AST>31U/L, 24.3% had ALT>31U/L and 33.5% had γ-GT>32U/L. The prevalence of MS was 79.1%. There was a significative association between MS and elevated ALT and γ-GT levels (p<0.001). ALT was negatively correlated with HDL-C (r=-0.14; *p*<0.05) and positively correlated with TG (r=0.19; *p*<0.05) and Glu (r=0.20; *p*<0.05). AST was positively correlated with TG (r=0.13; *p*<0.05) and waist circumference (r=0.04; *p*<0.05). γ-GT was positively correlated with TG (r=0.22; *p*<0.05) and Glu (r=0.13; *p*<0.05).
Conclusions: In this study it was found an association between MS and ALT and γ-GT elevation. It was also found a positive correlation between hepatic enzymes levels and triglyceride levels.