Results: LA induced higher production of ROS in Mo from NAFLD\textsubscript{AD} (p = 0.032) and OB\textsubscript{CH} (p = 0.015) vs. controls. LA, PA and Lep stimulated the oxidative burst in KC from NAFLD\textsubscript{AD} (p < 0.001, 0.010 and 0.045 respectively). Leptin induced a higher production of TNF\alpha in NAFLD\textsubscript{AD} (pc = 0.009) and OB\textsubscript{CH} (p = 0.009) vs. controls. IFN\gamma-producing CD4 and CD8 subpopulations were larger in NAFLD\textsubscript{AD} (p = 0.007 and 0.08) and OB\textsubscript{CH} (p = 0.07 and 0.005) vs. controls. Significant associations were found between NASH\textsubscript{AD} and NASH\textsubscript{CH} with CD4\textsuperscript{+} IFN\gamma\textsuperscript{+} (p = 0.029 and 0.13) and CD8\textsuperscript{+} IFN\gamma\textsuperscript{+} (p = 0.036 and 0.039) but not between ROS and TNF\alpha production in Mo/CK with NASH\textsubscript{AD} or SS\textsubscript{AD}, or OB\textsubscript{CH} with/without NASH by chi-square association tests.

Conclusions: Given the immunological alterations found in innate cells, SS should not be considered a benign condition. Furthermore, immunological alterations may be involved in NAFLD progression.

1265 FEMALE MOUSE LIVERS ARE MORE SUSCEPTIBLE TO OXIDATIVE STRESS THAN MALE LIVERS IN CAFETERIA DIET-INDUCED OBESE MICE

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Background and Aims: Changes in the cellular oxidative status are involved in the pathogenesis of obesity-associated hepatic steatosis. Whether there are gender differences in this process is unknown. This possibility was examined by comparing parameters of oxidative status and the gene expression of related enzymes in the livers of female and male mice with obesity induced by a western high-fat and high-carbohydrate cafeteria diet.

Methods: 4 Groups of 6 Swiss CD1 mice (21 d old) received either cafeteria diet (cafeteria male CaFM; cafeteria female CaFF) or balanced diet (control male CM; control female CF) for 14 weeks. Hepatic hydrogen peroxide (H\textsubscript{2}O\textsubscript{2}), thiobarbituric acid reactive substances (TBARS), reduced glutathione (GSH) and the activity of catalase (CAT), glutathione peroxidase (GPx), superoxide dismutase (SOD), hypoxia inducible factor (HIF-1\textsubscript{alpha}) and nuclear factor (erythroid-derived 2)-like 2 (Nrf2) were measured.

Results: Cafeteria-fed mice presented higher body fat gain, steatosis, and higher plasmatic levels of LDL, VLDL, total cholesterol and glucose. Higher levels of TBARS and mitochondrial H\textsubscript{2}O\textsubscript{2} were found in livers from cafeteria-fed animals of both genders (CaFM and CaFF), with higher levels in females than in males, independent of diet. The level of GSH was lower in cafeteria-fed mice of both gender; females (CF and CaFF) showed higher levels of GSH than males (CM and CaFM). CAT and GPx activities were reduced in cafeteria-fed mice of both sexes; the activities in females (CF and CaFF) were lower than those of males (CM and CaFM). SOD activity and the gene expression of CAT, GPx and SOD were not significantly altered when compared by gender or dietary treatment, but there was a significant increase in the expression of HIF-1\textsubscript{alpha} and Nrf2 in female cafeteria-fed mice (CaFF).

Conclusions: The female animals exhibited a higher susceptibility to cellular oxidative stress in cafeteria diet-induced obesity in comparison to males. The molecular mechanisms seem to be, in part at least, post-transcriptional, since the mRNA expression of the antioxidant enzymes was not different with regard to gender or dietary treatment. The higher mRNA expression of HIF-1\textsubscript{alpha} and Nrf2 suggests more complex regulatory mechanisms.

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1266 COMPLEX ROLE OF OSTEOPONTIN IN THE PROGRESSION OF NONALCOHOLIC STEATOHEPATITIS (NASH)

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Background and Aims: Osteopontin (OPN) is a Th-1 pro-inflammatory cytokine that is also involved in regulating the healing process. Recent studies have proposed that an increased liver OPN production can contribute to NASH progression. However, the actual role of OPN in modulating hepatic inflammation in NASH is still poorly characterized.

Methods: NASH was induced in wild type (WT), OPN-deficient (OPN-ko) and NFKB1-deficient (NFKB1-ko) C57BL/6 mice by 4–8 weeks feeding with a methionine/choline deficient (MCD) diet.

Results: Time-course experiments in WT mice revealed that liver OPN levels were unmodified in the early phases of NASH after 4 weeks on the MCD diet, but increased at 8 weeks in concomitance with the worsening of transaminase release, hepatic lobular inflammation and a further increase in the liver expression of pro-inflammatory cytokines TNF-\alpha and IL-12. According to the capacity of OPN to stimulate macrophage TNF-\alpha and IL-12 production, OPN-ko mice displayed lower levels of hepatic TNF-\alpha and IL-12p40 after 8 weeks MCD diet, while no differences were observed in the animals receiving the diet for 4 weeks. Steatosis, ALT release, lobular inflammation and fibrosis were not influenced by OPN deficiency, at both time points. This effect was likely dependent upon an increase in liver macrophage infiltration and activation occurring in OPN-ko mice. Feeding NFKB1-ko mice with the MCD diet for 4 weeks caused extensive steatohepatitis with appreciable centrilobular collagen deposition, mimicking the severity of NASH observed in WT animals after 8 weeks of treatment. In this strain the rapid progression of NASH was associated with an earlier increase in hepatic OPN production as well as with the liver recruitment of OPN-producing NKT cells. The administration of anti-OPN neutralizing antibody to NFKB1-ko mice receiving the MCD diet did not affect steatosis, but significantly ameliorated ALT release and liver inflammation.

Conclusions: Altogether these results suggest that OPN has a complex role in NASH likely contributing to liver inflammation only in advanced phases of the disease.

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1267 PERFORMANCE OF NEW ULTRASOUND METHOD FOR ASSESSING LIVER STIFFNESS – SHEAR WAVE™ ELASTOGRAPHY IMAGING IN RATS WITH EXPERIMENTAL OBESITY

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Background: NAFLD is the most important cause of chronic liver disease and is considered the hepatic manifestation of the metabolic syndrome associated with type 2 diabetes. The prevalence of NAFLD in the general population reaches 15–20% and it goes up to 76 to 90% in the obese population. The current study aims to evaluate changes of liver stiffness (LS) measured by ShearWave™ Elastography (SWE) in rats with obesity and assess it diagnostic efficacy in noninvasive steatosis assessment.

Materials and Methods: We studied changes of LS measured by SWE in animals with experimental obesity. Rats were divided into 3 groups: I – intact control (n = 10), II – animals with high fat diet-induced obesity (DIO) (n = 15), III – animals with glutamate-induced...