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SOCIEDAD ARGENTINA DE INVESTIGACIÓN CLÍNICA (SAIC)

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Dra. Paula Schaiquevich
Dra. Hebe Duran

C: 0.11±0.003), SBP (mmHg, 154±2 vs C: 120±2), hepatic steatosis (%, 81.5±2.5 vs C: 1.3±0.3) and perivascular fibrosis (%, 52.0±3.3 vs C: 12.3±1.1). Compared with HFF rats, M and L treatments (HFFM and HFFL respectively), significantly (p<0.001) ameliorated MVB adiposity index (%, 1.23±0.02 and 1.18±0.08), HOMA-IR (0.13±0.01 and 0.20±0.03), SBP (mmHg, 127±1 and 116±3), hepatic steatosis (%, 51.6±3.2 and 56.5±5.2) and perivascular fibrosis (%, 33.4±3.4 and 31.0±2.8). Moreover, we found that both steatosis and perivascular fibrosis positively correlated with MVB adiposity index, HOMA-IR and SBP.
Both M and L prevented MVB adiposity increase and consequently exhibited beneficial effects on the stages of NAFLD in a context of IR and hypertension.

308. (016) **TOTAL AND UNDERCARBOXYLATED OSTEOCALCIN (OCN) IN NON-DIABETIC WOMEN HAVING OR NOT METABOLIC SYNDROME (MS)**

Marina Soledad Bonanno[1], Graciela Brito[2], Dana Watson[2], Estefanía Magalí Zeni Coronel[1], Liliana Zago[3], Carlos González Infantino[4], Susana Noemí Zeni[1].
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Bone controls glucose homeostasis and insulin resistance through OCN. We wanted to know if body mass index (BMI) and the presence of MS could influence total and/or undercarboxylated OCN (tOCN and ucOCN, respectively) levels.
We compared ucOCN and total tOCN levels in 95 non-diabetic normoglucemic women (52.7±13.2 years) having or not metabolic syndrome (MS and nMS, respecively) and different degree of obesity. ELISA was used except for 25OHD where an immune-competitive method was used. Different letters indicate statistical differences (one-way ANOVA) and (*) p<0.05: Ms vs. nMS (Student t´test).
Results (mean±SD): Overweight (OW), type I, II, III obesity (OB) in nMS and MS, respectively. tOCN(ng/mL): 32.0±14.5^{b}, 22.3±13.1^{b}, 36.5±3.0^{b}, 10.7±4.5^{a}; 28.5±12.5, 24.3±12.1, 21.2±14.9, 27.3±12.9* ucOCN(ng/mL): 2.2±1.8^{a}, 2.5±1.7^{a}, 3.1±2.1^{ab}, 4.5±0.3^{b}; 1.0±0.4^{a}, 3.7±2.4^{b}, 3.6±1.6^{b}, 3.9±1.1^{b} Insulin(μUI/L): 6.9±2.6, 8.6±3, 9.0±1.6, 7.9±3.6; 11.1±4.6*, 12.5±4.0*, 12.7±4.9*, 13.9±5.6* Leptin(ng/mL): 10.3±5.5^{a}, 17.9±11.9^{b}, 23.9±6.5^{b}, 38.8±17.6^{c}; 9.9±6.3^{a}, 12.8±2.1^{a}, 22.2±10.7^{b}, 27.5±6.9^{b}
CTX (ng/L): 433±203, 417±166, 562±13, 380±201; 355±177, 411±172, 361±197, 436±147 25OHD (ng/mL): 22.9±8.1, 21.4±7.9, 20.0±7.3, 18.2±6.5; 22.4±8.0, 22.2±10.1, 16.4±2.9, 17.5±6.0.
Levels of tOCN were similar, CTX decreased and ucOCN, insulin and leptin increased with in the degree of OB in MS group.
Instead, in nMS women tOCN decreased and ucOCN increased with OB degree; while OB type III presented the lowest CTX levels.
In both groups, leptin increased and 25OHD showed a tendency to decrease with the degree of OB.
Conclusion: ucOCN levels appear to be directly associated with the degree of OB in both MS and nMS women, while tOCN did not change with OB in MS women but showed a high reduction in nMS women associated to the decrease in CTX levels i.e bone turnover.
Grants of PICT 2018-01252 and PROINCE E006 UNLaM.

309. (017) **EFFECT OF FEEDING A LOW LACTOSE YOGURT-BASE DIET HAVING GALACTOOLIGOSACCHARIDES (GOS) ON BONE HEALTH: PRECLINICAL MODEL OF NORMAL GROWTH**

Mariana Seijo[1], Marina Soledad Bonanno[1], Estefanía Magalí Zeni Coronel[1], Claudia Inés Vénica[2], María Luz Pita Martin de Portela[3], Clarisa Bozzini[4], Carina Viviana Bergamini[2], Irma Verónica Wolf[2], María Cristina Perotti[2], Susana Noemí Zeni[1].
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GOS are natural prebiotics of human milk that could have positive actions in calcium (Ca) absorption and bone health. They can be incorporated in fermented dairy products by enzymatic action on milk lactose, resulting in a low lactose-containing food.
We evaluated and compared the effect of feeding a low lactose-yogurt containing GOS (EY) in bone health during normal growth of weaning rats. Rats (n=10/group) fed 3 diets: control AIN'93-G (C); GOS-free yogurt (Y) or EY during 30 days.
We evaluated food consumption; body weight (BW); Ca absorption (% AbsCa) by balance methods; in cecum Lactobacilli growth (LB) by microbiological culture, pH by a pHmeter and short chain fatty acids (SCFA) by HPLC-IR; total skeleton (Et), lumbar spine (Ls) and proximal tibia (Pt) bone mineral density (BMD) and Et bone mineral content (BMC) by densitometry; bone volume (%BV) and intestinal crypt depth (ICD) (μm) by histology; maximal load, fracture strength and elastic modulus by biomechanical test. ANOVA and Bonferroni *post hoc* test were used to evaluate statistical significances.
Food consumption and BW were similar thought out the study. EY showed higher %AbsCa (p<0.05), LB colonies (p<0.05); SCFA concentration (p<0.001) and lower cecal pH (p<0.01) than Y and C. EY had the highest Ls and PtBMDs (p<0.05), %BV (p<0.01), ICD (p<0.0001) than YC and C without differences in EtBMC vs C. EY had higher biomechanical parameters than Y (p<0.01) without differences vs. C.
Conclusion: YE could be a useful tool to ensure an optimal bone growth in lactose intolerance conditions.
Grants of CONICET (PIP11220100100004) and UBA (UBACyT 20020130100091BA).

310. (022) **PREBIOTICS GALACTOOLIGOSACCHARIDES/ FRUCTOOLIGOSACCHARIDES (GOS/FOS®) MIXTURE, CALCIUM (Ca) ABSORPTIOM AND RESORPTION; AND INSUFFICIENCY OF Ca AND VITAMIN D (VD)**

Mariana Seijo[1], Marina Soledad Bonanno[1], Gabriel Bryk[1], Estefanía Magalí Zeni Coronel[1], María Luz Pita Martin de Portela ML[2], Susana Noemí Zeni[1].
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Prebiotics favors Ca absorption (CaAbs) and retention in bone. VD positively affects both processes. We evaluated if the prebiotic mixture assayed here exert similar effects under conditions of VD insufficiency and low Ca intake, using a preclinical model of postmenopausal bone loss.
Adult ovariectomized rats fed a commercial diet during 15 days post-surgery. Then, for an additional 45-days period, 16 rats fed a VD-free (0 IU%) diet (-D groups) and 16 a normal VD diet (100 IU%) (+D groups). Both isocaloric diets content 0.3% of Ca (0.3%). At day-60, each group was subdivided into 2 groups which continuing feeding the same diet, having or not 0.25% of prebiotic mixture: +DPM and +D or -DPM and –D, respectively. We evaluated zoometric measurements, lactobacilli (LS) growth in feces by culture; activity of 4 fecal enzymes; cecal pH; CaAbs% by balance; femur Ca content (biochemically), bone volume fraction (BV/TV), epiphyseal cartilage total length (GPC.Th) and intestinal crypts depth (CD) by histology; total skeleton (TS) bone mineral content (TSBMC) and bone mineral density (TSBMD), lumbar spine (LS), proximal tibia (PrT) BMDs by densitometry. ANOVA and Bonferroni *post hoc* test were used to determine statistical significances.
No differences in cecal pH, lactobacillus colonies, β-glucuronidase, urease and tryptophanase and β-glucosidase; CD; LS and PrTBMDs were observed between +DPM and -DPM; CaAbs, femur Ca content, TSBMC, TSBMD, TF BMD, BV/TV and GPC.Th were significantly higher in +DPM vs. -DPM (p<0.05). Results showed that hypovitaminosis D negatively affected the prebiotic GOS/FOS® action on Ca Abs and bone retention.