Objective: Diabetes type 2 is associated with increased fracture rates. This is not the case in adipositas. This might be influenced by vitamin D status and myostatin. Recently, Amor and coworkers reported increased levels of myostatin in obese patients and an association with insulin resistance (Amor et al. ECED 2019; 127:550). We wanted to evaluate myostatin levels in obese patients with diabetes mellitus type 2 and investigate if there is an association to vitamin D levels.

Methods: We investigated serum levels of myostatin and 25-OH-D in 27 individuals with a BMI <25 and normal HbA1c levels (<6.0%) (22 females, 5 males; group 1), 27 individuals with a BMI >35 and normal HbA1c levels (19 females, 8 males; group 2) and 28 individuals with BMI >35 and elevated HbA1c levels (>6.0) (15 females, 13 males; group 3). Serum acquisition was from July to September, thereby avoiding seasonal variations. HbA1c levels were determined with the Afineon system (Alere), 25-OH-D (total) levels with an Elisa (Roche, Cobas 411) and myostatin levels with an ELISA (Immundiagnostik, Bensheim). Group differences were evaluated with ANOVA.

Results: As expected, 25-OH-D levels declined with increasing BMI and were significantly higher in individuals with normal body weight (group 1) than in the obese persons with and without diabetes. Myostatin was slightly higher in obese individuals without diabetes (not significant) than in individuals with normal body weight. However, in diabetic obese persons myostatin levels were significantly lower. Myostatin levels were negatively correlated with HbA1c levels (r=-0.39, p=0.00). Age was also correlated negatively with myostatin levels (p=0.03). The correlation between 25-OH-D levels and Myostatin exhibited also a trend (r=-0.24, p=0.08). There was no influence on the results by sex.

Conclusion: Obese patients with diabetes mellitus present with significantly lower myostatin levels than obese individuals without Diabetes mellitus. HbA1c levels seem to influence myostatin levels. 25-OH-D levels showed only a weak association to myostatin levels.

P1012

REFERENCE VALUES OF THREE-DIMENSIONAL PROXIMAL FEMUR PARAMETERS FROM BONE DENSITOMETRY IMAGES IN HEALTHY SUBJECTS FROM ARGENTINA

M. L. Brance[1], F. Saravi[2], M. M. Henríquez[2], V. Longobardi[3], M. B. Zanchetta[3], M. S. Larroudé[4], M. R. Ulla[5], F. Matos[5], H. Salerni[6], B. Oliveri[7], M. Bonanno[8], N. L. Meneses[1], S. Di Gregorio[9], L. R. Brun[10]

[1]Reumatología y Enfermedades Óseas, Rosario, Argentina, [2]Escuela de Medicina Nuclear y Facultad de Ciencias Médicas, Mendoza, Argentina, [3]Instituto de Investigaciones Metabólicas, Buenos Aires, Argentina, [4]Centro Rossi, Buenos Aires, Argentina, [5]Instituto Latinoamericano de Investigaciones Médicas (ILAIM), Córdoba, Argentina, [6]Consultorios de Investigación Clínica Endocrinológica y del Metabolismo Óseo (CICEMO), Buenos Aires, Argentina, [7]Mautalen, Salud e Investigación., Buenos Aires, Argentina, [8]Laboratorio de Osteoporosis y Enfermedades Metabólicas Óseas (INIGEM). Hospital de Clínicas de Buenos Aires, Buenos Aires, Argentina, [9]CETIR/Ascires, Barcelona, Spain, [10]Laboratorio de Biología Ósea. Facultad de Ciencias Médicas. Universidad Nacional de Rosario, Rosario, Argentina

Objective: New methodologies for the assessment of bone mass from by DXA have been developed in the last years. The three-dimensional analysis of the proximal femur by (3D-DXA) allows the evaluation of cortical and trabecular bone separately and has shown a good correlation with computed tomography. We aimed to obtain reference values in a healthy population of both sexes in Argentina.

Methods: Adults female and male subjects (n=992) from four cities from Argentina were included. BMD (g/cm^2) was measured by DXA on the femoral neck and total hip. The 3D analysis was performed with 3D-Shaper software (v2.9, Galgo Medical, Spain). The cortical BMD (sDens - mg/cm^2) and trabecular volumetric BMD (trab vBMD - mg/cm^3) were consider. The distribution of the data was evaluated with the Shapiro-Wilk test and parametric or non-parametric tests were used as appropriate. Data were expressed as mean±SD and $p<0.05$ was considered significant.

Results: 75.5% women (n=749) and 24.5% men (n=243) were included. The mean age was 54.8±16.8 y and BMI was 27.3±5.4 kg/m^2. The data according to each decade and a comparison with a references group (decade 20-30) are shown in the following table (*indicates significant differences compared to decade 20-30):

	D20-30	D40	D50	D60	D70	D80
Women	n=137	n=79	n=212	n=186	n=95	n=40
Trab vBMD	208.8±40.2	197.1±37.9*	174.7±38.2*	165.5±41.9*	155.6±40.4*	161.7±40.3*
sDens	161.8±22.2	163.2±18.2	156.5±22.3*	156.1±24.3*	153.1±24.6*	156.7±29.8*
Men	n=89	n=29	n=28	n=41	n=33	n=23
Trab vBMD	216.5±39.8	225.1±42.8	201.4±32.9	182.0±43.4*	190.0±44.4*	178.2±21.7*
sDens	173.9±20.8	190.9±21.9*	181.5±21.3	173.7±20.8	179.6±28.2	179.4±21.7

Conclusion: A significant decrease in trabecular vBMD from D40 was observed in women, while in men this decrease was observed later (D60). The cortical parameter sDens was observed decrease from D50 in women and in men, an increase in D40 and cortical bone maintenance according to age was found.

P1013

MUSCLE MASS AND PREVALENCE OF SARCOPENIA IN RHEUMATOID ARTHRITIS PATIENTS

M. L. Brance[1], B. A. Pons-Estel[2], N. J. Quagliato[3], M. Jorfen[4], G. Berbotto[5], N. Cortese[4], J. C. Raggio[5], J. Soldano[3], M. Palatnik[6], I. Chavero[1], A. Sánchez[7], L. Del Rio[8], S. Di Gregorio[8], L. R. Brun[9]