generally regarded as healthy. Exclusion criteria were known prevalent metabolic bone disease, liver or renal disease and use of medication influencing bone metabolism. The study was approved by the ethics review board of the institution in compliance with the Declaration of Helsinki, and all subjects gave written informed consent.

Design: Vitamin D External Quality Assessment (DeQas) data on% bias from ALTM was used to correct measurement values achieved using our analytical methodology. Reagents with the same LOT number were used to measure the DeQas and the HunMen samples.

Results: All 206 samples for the HunMen cohort were evaluated using the DiaSorin platform for measuring total 25OHD. The timing of these measurements coincided with that of the October 2015 DeQas samples. Average% bias from ALTM was −13.5 % for DeQas samples 481 to 484, values for sample 485 was excluded since it showed an over 20 % difference from the NIST assigned value. The mean total 25OHD value changed markedly, i.e., 72.8 nmol/L with the original HPLC methodology, 52.6 nmol/L was the observed mean using the DiaSorin platform and 59.6 nmol/L was the mean corrected value. Subsequently, the originally reported prevalence of hypovitaminosis D (<75 nmol/L) for the HunMen cohort changed significantly, i.e., from 52.9 % to 71.8 %.

Conclusion: Our simple approach towards standardizing 25OHD values using the DeQas survey% bias from ALTM may encourage participating laboratories to readily correct values at primary result delivery.

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INFLIXIMAB INDUCTION COURSE CAN ACTIVATE BONE METABOLISM IN SEVERE PEDIATRIC CROHN'S DISEASE

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Objectives: Disturbances of bone metabolism in Crohn's disease (CD) can include osteoporosis, increased risk of low-energy fractures and linear growth failure and have multifactorial nature: systemic inflammation, malabsorption, vitamin D deficiency, corticosteroid (CS) therapy. CS is a first line treatment for severe and moderate forms of CD, but it can deteriorate bone mineralization and metabolism. Severe patients require treatment with infliximab (INF)- tumor necrosis factor-α inhibitors, which does not impact bone and possibly can improve bone status through control of the systemic inflammation. The aim of our study was to evaluate the changing of bone metabolism during the infliximab induction course.

Material and Methods: 15 children with CD (7 M and 8 F) aged 6–17 years (median age 14.0) who failed the treatment with CS, azathioprine and 5-aminosalycilic acid were treated with infliximab induction scheme (0-2-6 weeks) in 5 mg/kg per infusion. Lumbar spine BMD (DXA), serum osteocalcin (OC), C- terminal telopeptides (CTT), 25-OHD_3 and fecal calprotectin (CP) were measured before INF. OC, CTT and CP were measured repeatedly before the 4th INF infusion (week 12). We used Mann–Whitney U test, Wilcoxon test, chi-square test. Data are presented in the median and interquartile range (25 %; 75 %).

Results: The initial (before INF) bone status included BMD Z-score – 1.7 SD (−2.1; −0.7), 25-OHD_3 – 17.4 ng/ml (16.0; 25.0). At week 12 in 13/15 patients we observed gain of OC levels from 21.1 % to 3930.0 %, Δ = 100 % (25.5; 577) from 6.3 ng/ml (3.3; 9.6) to 10.9 ng/ml (8.2; 32.0), $p = 0.005$. CTT levels increased only in 8/15 patients from 1.9 % to 492.9 %, Δ = 1.9 % (−22.8; 65.0), from 1.05 ng/ml (0.83; 1.57) to 1.29 ng/ml (0.83; 2.6), $p = 0.33$ and in 7/15 patients CTT levels decreased ranged −3.3 % to −54.7 %. CP decreased in 12/15 from 798 μg/g (750.0; 961.0) to 113.0 μg/g (34.0; 654.0), $p = 0.0007$. There were no differences in initial status between patients with increased and decreased CTT level at week 12. Only unchanged CP level was predictor of decreased CTT level during INF induction course ($OR = 13.2$ (0.6; 316.7), $p = 0.048$).

Conclusion: INF treatment can activate bone metabolism in pediatric CD patients. Unchanged CP level can appear as a marker of poor response to INF and bone poor outcomes. Further trials are necessary.

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VALIDATION OF THE QFRACTURE SCALE IN SPAIN

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Introduction: In the last years it has been published several clinical scales based on risk factors who estimate the risk of suffering a fracture in the next 10 years. One of these scales, Qfracture, has not been validated outside its original country, United Kingdom.

Main objective: To validate the Qfracture scale in the Spanish population. The outcome was the first fracture recorded after the determination of the Qfracture.

Material and Methods: Prospective observational study. 529 patients were included. They all had at least two clinical evaluations and were studied at least for 10 years. Qfracture was estimated at the first visit. Some patients were followed up to

24 years. All the new fractures were recorded and verified, either with X-rays or with clinical reports.

Statistical study: Univariate analysis. The categorical variables expressed as frequencies and percentages, and you continue as averages and diversions standard when the information was following a normal distribution, and as medians and ranges interquartiles (percentiles 25–75) when the distribution was not normal. The percentages were compared using the chi-square test, the media with Student's t-test and the medians with the Wilcoxon's test for independent data. Analysis of survival. In order to explore the predictive capacity of the QFracture major, the patients were classified in agreement by the tertiles corresponding to the predictor (<2.8; 2.8 - 7; >7). In each of these groups the curves of survival were estimated up to the appearance of the first fracture. In each of these groups the curves of survival were estimated up to the appearance of the first fracture by means of Kaplan-Meier's method. The difference between them was confirmed using the test log-rank. Likewise there was obtained the value of the statistician D, which evaluates the capacity discriminant of the scoreboard for the fractures. In order to evaluate the capacity discriminant of the QFracture for any fracture, the patients who had a follow-up for at least 10 years they were classified as they had had or not at least a fracture in the first 10 years. For this classification it was realized a receiver operating characteristics analysis (ROC), being estimated the area under the curved correspondent ROC by means of an 95 % interval. Discriminant of the QFracture was selected as ideal threshold, the value associated with the point of the curve ROC that minimized the quantity $(1 - \text{sensibility})^2 + (1 - \text{specificity})^2$. For this threshold there were estimated the sensibility, specificity, the predictive positive value (PPV) and the predictive negative (PNV) by means of confidence intervals to 95 %. A contrast of hypothesis was considered to be statistically significant when the corresponding value of p was lower than 5 %. The information was analyzed using the program R, version 3.1.0.

Results: Are shown in figures and tables.

Conclusion: Qfracture is now validated for its use in Spain.

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RELATIONSHIP BETWEEN BODY COMPOSITION, FAT MASS AND BONE MINERAL DENSITY IN ELDERLY BRAZILIANS

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Objective: Whereas the excess of body fat mass is an independent risk factor for osteoporosis and osteoporotic fractures, we aimed to evaluate the relationship between body fat mass (BFM) and BMD in the elderly people.

Material and Methods: This subsample of a cross-sectional population-based study evaluated the elderly population, aged 60–84 years, 78 women and 44 men, from Sao Paulo, Brazil. The body composition and BMD of the lumbar spine (L1 to L4) and femoral neck, was determined by iDXA (GE Healthcare, Madison, WI). The BMI was classified according Pan American Health Organization (2002); fat mass index (FMI, fat mass/ height) was classified according Kelly & Wilson (2009); osteopenia and osteoporosis was classified according to WHO. Statistical analyses were performed using SPSS 20.0. The significance level was 5 %. Results are expressed as mean (SD).

Results: The mean weight of total sample was 74.36 ± 17.16 kg. Underweight was presented in 11.5 % of the subjects, normal weight in 39.3 %, overweight in 11.5 % and obese in 37.7 %. In relation to FMI, 0.8 % of the sample was classified as mild fat deficit, 18.9 % as normal and 80.3 % as excess fat. The mean of BMD L1 to L4 and BMD femoral neck were 1.136 ± 0.216 and 0.900 ± 0.163 g/cm^2, respectively. Osteopenia and osteoporosis were presented in 31.4 % and 11.6 % of subjects according to BMD L1 to L4, and 55.8 % and 3.3 % by BMD femoral neck. BMD L1 to L4 was statistically significant lower in subjects with normal weight compared to obese (1.101 ± 0.196 vs. 1.232 ± 0.201 g/cm^2; $p = 0.012$). BMI presented significant positive correlation with BMD femoral neck ($r = 0.313$; $p < 0.001$) and BMD L1 to L4 ($r = 0.305$; $p = 0.001$). FMI presented significant positive correlation with BMD femoral neck ($r = 0.189$; $p = 0.038$).

Conclusion: In the present study was observed that the prevalence of excess fat mass was high in our elderly population. Although controversial, similar to previous studies, the body fat mass showed a positive association with the bone mass, particularly in the body mineral density lumbar spine.

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FREQUENCY OF CERTAIN TYPES VERTEBRAL FRACTURES IN PRIMARY AND SECONDARY OSTEOPOROSIS

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Introduction: Vertebral fractures and their symptoms may be the first sign of osteoporosis. Observing changes in the vertebral bodies of the spinal column at the radiography in a patient with back pain which was not preceded by trauma is a relatively common finding, especially in the sixth (or more) years old.

Objective: We analyzed the frequency of different types of deformity in vertebral fracture in patients with osteoporosis and possible correlation of a certain type of primary or secondary OP.