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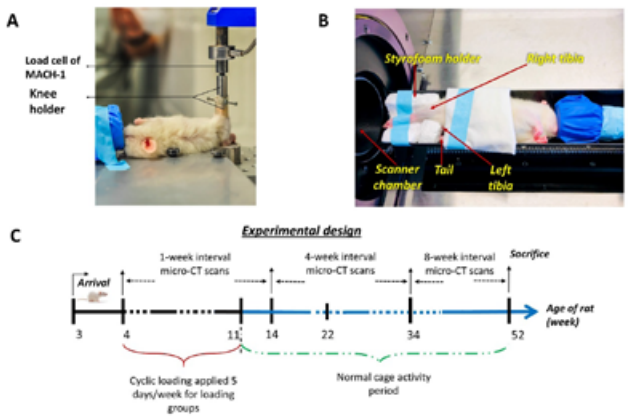
AbstractBook

Results: HI loading increased BMD, bone volume fraction, trabecular thickness, trabecular number and decreased trabecular spacing right after loading (11 w.o.). At the end of the detraining period (52 w.o.), all trabecular bone benefits gained from HI loadings were maintained, except BMD. Moreover, cortical bone area, periosteal perimeter and moment of inertia were enhanced at the end of puberty due to HI loading and remained till the end of 52nd week. In terms of bone strength, HI loading increased ultimate force and stress as well as stiffness compared to the sham group.

Conclusion: Overall, our findings suggest that even though age-related changes occurred in the bone microstructure, controlled high impact loading during adolescence benefitted both bone microstructure and biomechanics, which remained at adulthood.



P1147

AN EXPERT CONSENSUS ON THE APPROPRIATE USE OF ORAL SYSADOAS FOR THE TREATMENT OF THE OSTEOARTHRITIC PATIENT WITH COMORBIDITIES

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Objective: Osteoarthritis pain is linked to disability and low quality of life (QoL). The therapeutic modalities in the treatment of osteoarthritis are numerous and agreement on treatments is lacking. Symptomatic Slow-Acting Drugs for Osteoarthritis (SYSADOAs) are at the center of a debate on their utility in clinical practice. Our objective was to create a consensus document on the appropriate use of oral SYSADOAs: chondroitin sulfate (CS), glucosamine(G), diacerein(D) and the combination of CS plus G for OA management in primary care (PC) as a support instrument to health professionals.

Methods: We applied a Delphi technique of two rounds, where 24 clinical questions were evaluated and 206 specific consultations formulated. The questionnaire was validated by the expert committee. A panel of 14 experts in OA and SYSADOAs responded to the two rounds of consultation through an online platform. The results were analyzed and discussed in a face-to-face meeting with the coordinators and scientific committee and were classified in terms of Unanimity, Consensus, Majority, and Discrepancy. Items that reached consensus by at least 80% across both panels were included in the guidelines. The fieldwork of the study lasted 4.5 months.

Results: A total of 162 concrete questions were agreed upon regarding the perception of the clinical-therapeutic usefulness, the evidence and the appropriate use of the SYSADOAs. Consensus statements emerged: (1) patient phenotypes affect SYSADOAs action; (2) SYSADOAs are effective in primary and secondary OA and not in erosive hands, shoulder, spine, and ankle OA; (3) CS, G and association can reduce pain, inflammation, improve QoL and functional capacity having a chondroprotective effect; (4) CS and G can reduce synovial membrane inflammation, all oral SYSADOAs, except D, can decrease cell death and the enzymes responsible for cartilage destruction; (5) the maximum therapeutic efficacy is reached after 3/6 months; (6) SYSADOAs can be prescript to patients having comorbidities.

Conclusion: This work is the first available tool on the appropriate use of oral SYSADOAs. The dissemination of these results will contribute to improving management protocols and support doctors' decisions in uncertainty situations by ensuring a personalized treatment to OA patients.

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PSORIATIC ARTHRITIS PROGRESSION IS ASSOCIATED WITH ACTIVATION OF ANGIOPOIETIN-LIKE PROTEIN TYPE 3

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Objective: In psoriatic arthritis (PsA), increased angiogenesis underlies synovial proliferation in the joints. Recent studies have noted the pro-angiogenic activity of an angiopoietin-like protein type 3 (ANGPTL3), which can activate the proliferation processes in the synovial membrane in inflammatory joint diseases. We aimed to assess the possibility of using ANGPTL3 as a predictor of PsA progression.

Method: The study included 63 people: 30 PsA patients aged 38-68 y (women - 83.3%, disease duration - 10.47±6.02 y) and 33 healthy donors aged 24-58 y (women - 75.8%). The concentration of ANGPTL3 in blood serum was determined by enzyme immunoassay using a commercial test system Human Angiopoietin-like Protein 3 ELISA (Bio Vendor, Czech Republic).

Results: The average level of ANGPTL3 in PsA patients was 469.63±130.51 ng/ml. These results significantly exceeded those of healthy individuals ($p<0.001$). In 17 (56.7%) patients with PsA, the ANGPTL3 determination was considered positive (range from 453.59-809.69 ng/ml), in 13 (43.3%) people this indicator

was negative (values from 253.06-419.44 ng/ml). The sensitivity of the test was 56.7%, specificity 90.9%. The level of ANGPTL3 positively correlated with the activity of PsA by the DAS index (r=0.62). Statistically significant differences were found in the content of ANGPTL3 in PsA patients with high disease activity (12 people, DAS>3.7) compared with low / moderate activity (18 people, DAS≤3.7) of the disease (p<0.001).

Conclusion: The role of ANGPTL3 in the development of an imbalance between inhibitors and stimulators of neovascularization in PsA is subject to detailed consideration. ANGPTL3 may claim to be a diagnostic marker for PsA.

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BROWN TUMOURS: THE PLAYLIST OF PTH

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Objective: PTH is a major contributor to skeletal health and other metabolic pathways. (1,2) Severe osteoporosis and especially brown tumors secondary to persistent osteolysis are rarely encountered in primary hyperparathyroidism. parathyroidectomy remains the main therapeutic option followed by the correction of biochemical and hormonal parameters.

Method: This is a case report regarding bone changes induced by a severe form of primary hyperparathyroidism. The patient was followed in different tertiary centres of endocrinology. The informed consent was obtained.

Case report: This is a 43-year-old male without significant pathological history diagnosed with primary hyperparathyroidism in the context of weight loss of over 15 kg within 1 year associated with generalized bone pain and decreased muscle strength with walking difficulties. Preoperative chest CT examination described mediastinal and paraesophageal lump tissue mass of 38/26/40 mm, diffuse osteoporosis lesions, and osteolytic imaging in the C2 and C6 vertebrae suggestive of brown tumors. Severe hypercalcemia of 14 mg/dL (normal: 8.8-10.6 mg/dL) required preoperative treatment with zoledronic acid 4 mg and diuretics. Postoperatively, "hungry bone syndrome" appeared (total calcium of 7.50 mg/dL, ionic calcium of 3.89 mg/dL-normal: 4.4-5,4 mg/dL, low 25-hydroxyvitamin D of 23.8 ng/mL-normal: 30-100 ng/mL) and regressive doses of calcium and vitamin D were administered. Bone MRI performed 3 months postoperatively confirmed the presence of suggestive lesions for brown tumors. The slow involvement of bone changes secondary to primary hyperparathyroidism requires periodic monitoring by bone scintigraphy, DXA examination and by the biochemical and hormonal parameters involved in bone metabolism.

Conclusion: Brown tumors due to PTH excess are an exceptional finding nowadays. At diagnosis the differentiation with bone metastases is critical while after parathyroid surgery the bone recovery is intense and needs special care. Real life medicine includes such challenging cases and adequate recognition is crucial.

References:

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P1150
SPECIFICITY AND SENSITIVITY OF TBS-OSTEO 3.0 IN PATIENTS WITH VERTEBRAL FRACTURE: CASE AND CONTROL STUDY

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Objective: To describe the specificity and sensitivity of the trabecular bone score (TBS-osteo ver 3.0) in postmenopausal women with vertebral fractures.

Methods: We performed a case-control study that identified 76 postmenopausal women with vertebral fracture (VF) detected by vertebral fracture assessment (VFA) by DXA. They were compared with 76 controls, matched by age, sex, and size, without VF. A GE-Prodigy Advance DXA device was used and the value of TBS-osteo 3.0 was obtained in both groups. T-test was used to analyze the differences. The specificity and sensitivity were calculated with a confusion matrix.

Results: There were no differences between cases and controls in anthropometric measurements, except for height, 4.35cm taller in controls (p=0.0). TBS-osteo 3.0 values in partially degraded range did not show significant differences (p=0.18). Significant differences were observed in normal and degraded range (Table 1). The fractured patients presented a risk of very high (16.4%), high (17.7%) and medium (10%) for VF. Only 5.2% of patients with VF were classified as low risk (Table 2). The sensitivity obtained through the confusion matrix was 65% with a specificity of 66% and an accuracy of 65%. When analyzing the odds ratio, it was found that the population at high risk of VF with TBS-osteo is 3.71 times more likely to present a VF than the population at medium or low risk.

Conclusion: The combined use of TBS-Osteo 3.0 and BMD by DXA improves the risk assessment of VF. Most of our population with VF is found within high or very high risk in TBS- Osteo 3.0 parameters. Patients without VF present medium and low VF risk ranges.