

Persistent hypoALP was detected in 0.07% (0.06-0.09) of 105925 HIBA members. One patient had celiac disease as a secondary cause, 77 cases were included; 61.1% women, 44 (34-56) years old, ALP 24 (20-27) IU/l and phosphatemia 4.1 (3.8-4.6) mg/dl. Osteoarthritis, vascular calcifications and fractures were observed in 45, 13 and 12 patients respectively, and nephrolithiasis, DISH, tooth loss and seizures less frequently. At least one of the mentioned characteristics was observed in 63.6%, but only 5.2% had hypoALP registered in their clinical record. Densitometry showed osteopenia or osteoporosis in 76.2%. There were 19 fractures, most of them in radius, with no gender predominance. Four patients received bisphosphonates, with low ALP before starting them. Although no atypical fracture was observed, one patient presented multiple fractures (pelvis, olecranon and wrist) after antiresorptive treatment. Conclusions: The prevalence of hypoALP was 0.07%. Recognition in medical records was low, but far from being asymptomatic, varied clinical manifestations were observed. In the presence of hypoALP without a secondary cause, adult hypophosphatasia should be suspected. An adequate diagnosis of hypophosphatasia is relevant due to its clinical and therapeutical implications (antiresorptives should be avoided) and for genetic counseling.

Is sarcopenia a risk factor for rotator cuff tears?

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Sarcopenia is the loss of muscle mass and consequent loss of muscle function with aging. Its prevalence can reach up to 24% in the population over 65 years. Currently, it is considered an independent risk factor for falls and fractures, disability, postoperative complications, and mortality. Rotator cuff tears are known to be influenced by systemic diseases such as diabetes mellitus, hypercholesterolemia, thyroid disease, and osteoporosis. This study aimed to evaluate the prevalence of sarcopenia in patients with and without rotator cuff tears to determine if it can be considered a risk factor for this condition. Methods: This is a prospective case-control study. We evaluated 106 consecutive patients and divided into two groups: Group 1 (cases) included 53 patients with chronic symptomatic full-thickness rotator cuff tears (mean age, 72±5 years), and group 2 (controls) included 53 age- and sex-matched patients (mean age, 71±6 years). The sarcopenic index was evaluated using the grip strength of the dominant side. A gait speed test was performed, and skeletal muscle mass was evaluated with dual energy X-ray absorptiometry (DXA). Rotator cuff pathology was evaluated with MRI in all patients. Results: No significant differences were found in baseline data and demographic factors between the groups, except for the smoking habit ($p=0.02$). The prevalence of sarcopenia was not significantly different between the groups, nor were gait speed, grip strength, and skeletal muscle mass index ($p=0.15$, 0.99, and 0.9, respectively). Conclusion: The prevalence of sarcopenia in patients with rotator cuff tears was similar compared with an age- and sex-matched control population. Thus, with these results, we are not able to consider sarcopenia as an independent risk factor for rotator cuff tears.

Post-implant biocompatibility of electro-spun polycaprolactone nanocomposite fibrous scaffolds

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Tissue engineering aims regenerating de novo lost tissue. Our objective was to analyze the biocompatibility of the implant of PCL-nHAp, an electro-spun scaffold prepared by mixtures of a biocompatible and bioabsorbable polyester, poly(caprolactone), and a bioactive ceramic of nanofibrous structure (nanohydroxyapatite particles), in an in vivo model (New Zealand female rabbits). Scaffolds were 5 mm diameter PCL-nHAp discs, superficially modified to increase hydrophilicity by alkaline treatment and sterilized (peracetic acid). Treatments were (I) control, no bone lesion, (II) metaphyseal femoral bone lesion 3 mm deep and 5 mm diameter and PCL-nHAp implant; (III) lesion but no implant (n=6). Rabbit's clinical evolution was adequate, without affecting gait. No differences in biochemical values (hemograms and transaminases) were detected after 1; 5 and 90 days. Histological studies (90days, 4n) showed that PCL-nHAp scaffold with a corrugated appearance, surrounded, from the outside inwards: A-Hematopoietic bone marrow with megakaryocytes and/or fat with congestive areas; B- few incipiently formed trabeculae, of varied forms; and C- presence of multinucleated giant cells, macrophages, lymphocytes combined with areas of hemorrhage and congestion. An adequate biocompatibility of the scaffolds can be observed, which in its imminent degradation process has not affected the biochemical parameters studied. A non-toxic and biologically active histological response is observed, with moderate levels of inflammation. We believe that longer post-implant periods will allow definitive conclusions.

Vascular calcification in an experimental type 1 Diabetes mellitus model: benefit of naringin treatment

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Vascular calcification (VC) is an important complication of type 1 Diabetes mellitus (DM). Several studies suggest that the antioxidant naringin (NAR) is beneficial for treatment of DM, but its effect on the VC has not been investigated. The aim of this work was to know whether NAR could attenuate the VC in Wistar male rats with DM. Three groups of animals were used: controls, diabetic rats (treated with 60 mg streptozotocin /kg b.w.: STZ), diabetic rats treated with NAR (40 mg/kg b.w.). After 30 days of treatment, plasma was withdrawn and rats were sacrificed to obtain the aortas. Endothelial cells (EC) from aortas were cultured and NO• was measured by the Griess's method. ANOVA and Bonferroni test were used for statistical analysis. NO• production was reduced in STZ rats, which was highly blocked by NAR. In control aortas, estrone (E1) and genistein (Gen) stimulate NO• but in aortas from STZ rats there was lack of NO• stimulation by those hormones. However, NAR restored the capability to stimulate NO• production under E1 and Gen treatments. Isolated aortas from the different groups of animals were exposed to a pro-calcific medium with glycerophosphate for 7 days; the aortas were decalcified and the released calcium was measured by a commercial kit. Calcium content from aortas of STZ rats was 74% higher than that from the control rats. NAR treatment reduced calcium incorporation in aortas from STZ rats to values closed to the control ones. These data were confirmed by AgNO₃ staining. Aortas from STZ rats showed multiple sites of calcification, effect that was abolished by NAR treatment. All data suggest that NAR could prevent damage of the vascular morphology and functionality in DM.

Yerba mate (*Ilex paraguarensis*) consumption is associated with higher total hip mineral density in postmenopausal women: A 3D-Shaper analysis

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