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Cover: Purple landscape of bone mineral seen by polarized light microscope.

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triggered by FRD. The BMD and OCN normalization, the reduction in the number of adipocytes and the increase in the number of osteocytes suggest that NAR is acting as a possible bone protector in metabolic syndrome.

Antineoplastic effect of the flavonoid quercetin in a Kaposi's sarcoma cellular model

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Quercetin (QUE) is a flavonoid present in a wide variety of foods with different biological and pharmacological effects such as antitumor activity. Kaposi's sarcoma (KS) is a malignant Herpesvirus-induced tumor characterized by angiogenesis and proliferation of cells with characteristics of activated endothelial cells. In this work we studied the antineoplastic effect of QUE and the modulation of ERK1/2, AKT and Wnt/β-catenin signaling in a KS cellular model. Tumor cells were treated with QUE at different concentrations (1-50 μM) for 24 and 48 h. Crystal violet staining revealed that QUE significantly decreases cell proliferation in a dose and time dependent manner: 77.8±5.1% 20 μM vs. C and 85.7±7.5% 50 μM vs. C (24 h); 66.4±6.3% 10 μM vs. C, 55.9±2% 20 μM vs. C and 50.8±7.3 50 μM vs. C (48 h). In concordance, representative images showed an increase of cells with apoptotic characteristics. MTS assay demonstrated a significant decrease in cell viability at highest doses of QUE (84.4±7.1% 20 μM vs. C; 86±6.9% 50 μM vs. C) at 24 h and (63.7±7% 10 μM vs. C; 43.3±5.7% 20 μM vs. C; 34.3±7% vs. C) 48 h. Under the same experimental conditions, phosphorylated ERK1/2 and AKT were analyzed by Western blot (WB) revealing an increment in their phosphorylation levels in a dose dependent way after 24 h of QUE. Since Wnt/β-catenin signaling pathway play an important role in tumor development and is activated in KS, β-catenin protein levels were also analyzed by WB showing an increment of its expression from 5 μM of QUE. Altogether, these results demonstrate an antitumor effect of QUE on KS cellular model, accompanied by ERK1/2 and AKT activation and an increase in β-catenin expression, a key protein of Wnt signaling pathway.

Densitometric and geometric differences in distinct types of hip fractures

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Hip fractures are multifactorial. Mechanical competence of the hip is one of these factors. It is the result of the interaction of multiple properties such as size, shape and geometry. Purpose: to assess whether there are differences in bone densitometry (BMD) and geometric properties among women who experienced a cervical (CF) or transtrochanteric (TTF) hip fracture (HF), compared to those without a fracture. Methods: we included 46 female patients with HF between 2015 and 2018 and a BMD measured by DXA within the previous 5 years and 40 controls of the same age randomly selected. We analyzed: age, T-score of total hip, femoral neck (FN) and Ward's triangle, FN area, hip shaft length and cervical-diaphyseal (c-d A) angle. We calculated the "robustness" of the hip: average width FN (neck area/1.5 cm) / length of the hip axis, being informed as robust or slender. Statistics: Student´s t- test for cases and controls, non-parametric test: Kruskal-Wallis and Mann-Whitney for differences between groups, Chi square for difference in proportions. Results: patients with HF have lower BMD in FN, total hip and Ward's triangle ($p<0.001$). They also have a longer length of the hip axis ($p=0.042$) and greater c-d A angle ($p=0.07$). BMD decreased as follows: controls >TTF>CF ($p=0.006$). Ward's triangle in TTF is lower than in controls and CF, in CF it is similar to controls. T-score ≤ -2.5 was