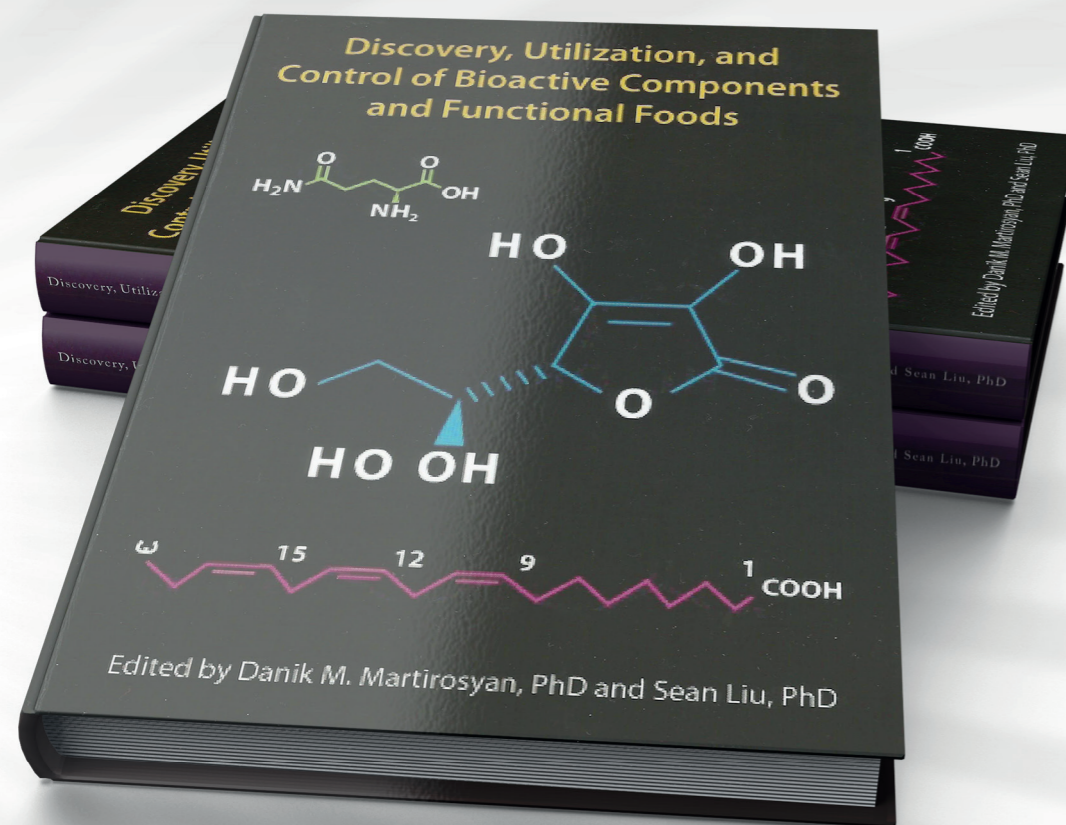


Coletânea Reúne Estudos da Comunidade Científica Apresentados na 17ª Conferência de San Diego nos EUA.



Uma vida melhor, prevenir é a solução.

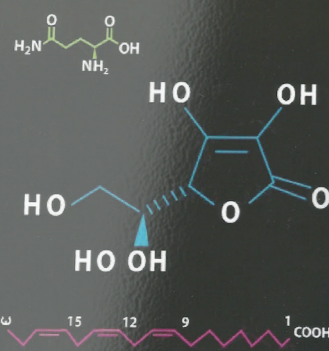
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Efeitos da Água Magnetizada



Estudo apresentado na 17ª Conferência de San Diego nos EUA e publicado no Manual de Controle de Componentes Bioativos mostra que é possível prevenir a osteoporose de forma natural e sem contra indicação.

Discovery, Utilization, and Control of Bioactive Components and Functional Foods



Edited by Danik M. Martirosyan, PhD and Sean Liu, PhD

Água Magnetizada é saúde e ajuda a prevenir a Osteoporose. Está no livro Manual de Descobertas e Controle de Componentes Bioativos e Alimentos Funcionais, do Instituto de Alimentos Funcionais de Dallas nos EUA.

O estudo da APTA de Ribeirão Preto, sobre a Osteoporose, liderado pelo Dr. Geraldo Balieiro, foi apresentado na 17ª Conferência de San Diego nos EUA em novembro de 2014. Um Congresso Internacional aceito pela comunidade científica. Tanto é, que esse trabalho foi publicado no Manual de Descoberta, Utilização e Controle de Componentes Bioativos dos Alimentos Funcionais. Esse livro é uma coletânea que reúne as principais descobertas científicas da atualidade, com impacto positivo na saúde das pessoas, que é desencadeado a partir da utilização de alimentos ou substâncias naturais. Essa importante obra é editada pelo PhD Danik M. Martirosyan, Presidente do Centro dos Alimentos Funcionais / Instituto dos Alimentos Funcionais de Dallas, nos EUA, em parceria com o também PhD Sean Liu, da Unidade de Pesquisa de Alimentos Funcionais do Departamento de Agricultura dos EUA.

Algo bastante simples, mas, que, depois de muitos estudos e pesquisas, pode comprovar que a água magnetizada é capaz de prevenir a osteoporose e aumentar a massa óssea.

The 17th International Conference, San Diego, November 18-19, 2014

WATER TREATMENT BY MAGNETIC FIELD INCREASES BONE MINERAL DENSITY OF RATS

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Keywords: Bone density, bone resistance, bone content, magnetic field, drinking water

Background: Data suggests that the properties of magnetically treated water are different from those of untreated water. This fact is usually attributed to the weaknesses of intermolecular interactions (hydrogen bonds) and nucleation processes (effect of impurity, frequency and growth of nuclei). Water treatment by magnetic field is an attractive but still controversial issue in its application to human health. We found that there were increases in bone mineral density of rats consuming water conditioned by a magnetic field compared to a group consuming unconditioned water; this effect can reduce the risk of osteoporosis and bone fractures in humans.

Objective: The purpose of the present study is to investigate the effects of water treatment by magnetic field on Bone Mineral Density (BMD, g/cm²), Bone Mineral Content (BMC, g), Bone Area (BA, cm²), Bone Resistance (BR, kN/m) and Blood Gas Analysis (Bicarbonate, mmol/L; Anion Gap, mOsm/kg) of rats.

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Tradução

Os efeitos da água tratada magneticamente podem reduzir a osteoporose e fraturas ósseas em seres humanos.



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Methods: The treatment of water was performed using some commercial magnetic conditioners (Sylocimol) designed to generate a strong magnetic monopole field. These devices were inserted into the water troughs of the metabolic cages. A completely randomized design distributed to a 2x3 factorial arrangement was used. Forty-eight Wistar rats were divided into two groups: control (n=24) and group consuming magnetic water (n=24). Then, these groups were subdivided into three groups to evaluate three consumption periods (15, 30 and 45 days). The animals were kept in metabolic cages throughout the entire experiment. The BMD, BMC and BA of the right femur were measured by the DPX-Alpha, Lunar[®] densitometer. BR of the mid shaft and head femoral were measured by the Universal Test Machine EMIC[®], DL3000. Blood samples were collected from the femoral artery using a blood sampling kit for blood gas analysis (3 ml ventilated syringes with 23 G I in needle, containing freeze-dried lithium heparin). All the samples were immediately analyzed in a calibrated blood gas analyzer set at the body temperature of rats.

Results: No significant difference was found on water intake (35.14 vs 32.51, p>0.05), dry matter intake (25.66 vs 24.35, p>0.05), BA (1.29 vs 1.29 cm²) or head femoral resistance (95.56 vs 102.48 kN/m). However, higher Anion Gap (14.70 vs 16.95 mOsm/kg, p<0.05) and lower CHCO₃ (28.66 vs 25.04 mmol/L, p<0.05) were found in the arterial blood of the group drinking treated water. There was a significant interaction between water and consumption period to BR, BMD and BMC (p<0.05). In the first analysis (after fifty days), there was no difference (p<0.05) in BMC and BR between the two groups. In the second evaluation (after thirty days), there were increases in BR (mid shaft) BMD and BMC (p<0.05). After forty-five days, there were increases in BR, BMD and BMC (p<0.05) and the differences between the groups were higher (Table 1).

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Tradução

O tratamento da água foi realizado com um condicionador magnético comercial (Sylocimol) projetado para gerar um campo magnético forte monopolar.

A conclusão foi que a densidade mineral óssea aumenta consideravelmente com a ingestão de água tratada magneticamente. Durante a pesquisa, um grupo teve em sua dieta água super magnetizada pelo Sylocimol, aparelho de fabricação brasileira. E, no outro grupo, a dieta trazia água normal. Depois de 45 dias, o grupo que consumiu a água tratada magneticamente teve um aumento significativo da densidade óssea, que pode ser percebido nas imagens dos exames com Densitômetro de Dupla Emissão de Raio-X. Isso aconteceu, pois, os íons de hidrogênio, com a reação magnética, formam a hidroxila. Assim, eles deixam de competir com os íons de cálcio, aumentando a ocorrência desse mineral, essencial para a preservação da estrutura óssea no organismo.

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Table 1. Magnetic treatment of water on Bone Mineral Density (BMD, g/cm²), Bone Mineral Content (BMC, g), Bone Area (BA, cm²) and Bone Resistance (BR, kN/m) of rats.

Days of consumption	Control	Test	CV	MSE	P-value
Bone Mineral Content					
15	0.123	0.134	26.48	0.034	0.511
30	0.169 ^b	0.215 ^a	10.19	0.019	0.0003
45	0.201 ^b	0.296 ^a	12.01	0.030	<0.0001
Bone Mineral Density					
15	0.096	0.114	17.82	0.018	0.075
30	0.137 ^b	0.173 ^a	6.92	0.010	<0.0001
45	0.141 ^b	0.200 ^a	6.09	0.010	<0.0001
Mid shaft Femoral Resistance					
15	317,94	349,89	19,51	65,17	0,377
30	438,33 ^b	531,22 ^a	15,66	75,47	0,033
45	436,06 ^b	567,61 ^a	14,37	72,15	0,005

Within rows, means with different letters are significantly different (P < 0.05).

Conclusion: The hydrogen ion is not accounted for on the cation side, but the decrease in the bicarbonate buffer compensation would appear as a Bicarbonate deficit, and the Anion Gap would increase. Thus, the effects were attributed to reduced hydrogen ions' competition for calcium binding sites. We concluded that there were increases in BMD, BMC and BR in group consuming water conditioned by the magnetic field technology compared to group consuming unconditioned water. Furthermore, the highest consumption period of the water conditioned by the magnetic field increased BMD, BMC and BR in rats. The treated water intake for more than 45 days can reduce the risk of osteoporosis and fractures by reducing hydrogen competition for calcium binding sites and increased bone mass.

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Tradução

A ingestão de água tratada magneticamente por mais de 45 dias pode reduzir o risco de osteoporose e fraturas, pela redução da concorrência dos íons de hidrogênio nas ligações de aglomerados de cálcio, aumentando a massa óssea.