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Vitamin D or exercise whilst on high fat diet normalise bone mineral density

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Diet induced obesity is a major health problem in developed and developing countries and affects not only cardiovascular but also skeletal health. Lipids have a direct reducing impact on bone mineral density by inhibiting osteoblastic differentiation and enhancing osteoclast differentiation. Conversely, vitamin D or exercise enhances the bone mineral microarchitecture through activating the osteoblasts activity and increasing the deposition of calcium. The effect of vitamin D or exercise on bone mineral density during high fat feeding was studied in male and female C57Bl/6J mice by micro-computed tomography. Experimental mice received a high fat high sugar diet with additional vitamin D supplement or had access to voluntary exercise. After five weeks, they were compared to mice on high fat high sugar diet. We find that vitamin D supplementation or additional exercise normalize within five weeks the bone mineral density by correcting the cortex and trabeculae segmentations. We conclude that these two intervention modes may be of value to obese persons who are in the process of correcting their dietary habits.

Biography

Zeayd Saeed has been graduated from the college of Veterinary Medicine and Surgery of Al-Qadisiyah University, Iraq as Veterinary Doctor. Later on, he obtained his Post-graduation in Microbiology from Belarusian State University, College of Biology, Belarus and then started working as Assistant Lecturer at the University of Al-Furat Al-Awsat Technical University / Technical institute of Samawa, Nursing department, Iraq. Presently he has been standing as a PhD student at the University of Leicester in Leicester City, UK.

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