Rev Med (São Paulo). 2018 Nov-Dec;97(6):594-5.

doi: http://dx.doi.org/10.11606/issn.1679-9836.v97i2p594-595

Letter to the Editor

Bone microarchitecture evaluation in ankylosing spondylitis patients assessed by lumbar spine trabecular bone score and HR-pQCT

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Our article entitled "*Bone Impairment Assessed by Lumbar Spine Trabecular Bone Score (TBS) and HR-pQCT in Male Ankylosing Spondylitis Patients*" has the purpose to study bone parameters of ankylosing spondylitis patients assessed by different structural variables than the traditional Dual-Energy X-Ray Absorptiometry.

Ankylosing spondylitis (AS) is a disease that affects the cortical and the trabecular bone compartment in distinct ways, syndesmophytes formation and ligamentous calcification leads to a false ideia of bone quality[1], overestimating areal bone mineral density (aBMD) DXA and hiding bone damage caused by the systemic inflammation[2,3].

Due to this limitation of using aBMD DXA in AS patients, new technics, as Trabecular Bone Score (TBS)[4] and HR-pQCT[5,6] show up as important alternatives to better assess bone quality in this patients, preventing them from having bone fractures.

TBS is a parameter measured during the lumbar spine DXA scanning (iNsight Software) that excludes syndesmophytes and other ligamentous calcifications, giving a more reliable picture of bone impairment[7]. HR-pQCT, in other hand, is a High Resolution peripheral Tomography that shows microarchitecture and biomechanical parameters of bone, analyzing distal radius and tibia[8,9].

In our study, we evaluated ankylosing spondylitis patients comparing them to age and gender-matched healthy controls. We recorded individual characteristics as age, physical activity, Body Mass Index (BMI), smoking, alcohol intake and history of fracture, statistically adjusting any parameters that showed difference between the compared groups.

By analyzing the data, we concluded that TBS and HR-pQCT are superior methods to differentiate between AS patients and healthy controls compare to aBMD DXA and therefore should be used to evaluate bone quality in AS patients.

Oswaldo Cruz Awards - Clinical in the XXXVII COMU - Congresso Médico Universitário da FMUSP, September, 2018.
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Received: October 8, 2018.
Accepted: October 09, 2018.