



The contribution of Micro-CT to the evaluation of trabecular bone at the posterior part of the auricular surface in men

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Résumé en anglais	<p>Aim Using multi-slice computed tomography (MSCT), Barrier et al. described the disappearance at the posterior auricular surface of a “central line” (CL) and “juxtalinear cells” (JLCs) belonging to a trabecular bundle, and a trabecular density gradient around the CL that decreased with age. The aim of our study was to use micro-CT to test these findings, referring to the concept of Ascadi and Nemeskeri.</p> <p>Methodology The coxal bones of fifteen males were used; age was known. CLs were identified on MSCT-sections using Barrier’s method (64 detectors, 0.6 mm slice thickness, 0.1 mm overlap) with two different software programs (Synapse®, Amira®). Then, CLs were researched on microCT slices (pixel size: 36 µm). Three volumes of interest were defined (around, above, and below CL), and 3D morphometric parameters of the trabecular microarchitecture (particularly BV/TV and DA) were calculated. Two-tailed statistical analyses were performed attempting to correlate these parameters with age at death.</p> <p>Results CLs and JLCs were observed on micro-CT slices, but with moderate agreement between both imaging techniques. Their presence was not correlated with the age of the subjects. Around the CL, BV/TV decreased significantly with age; DA was negatively correlated with BV/TV and had a tendency to increase with age. Between areas above and below the CL, there was a BV/TV gradient and both BV/TVs decreased in parallel with age.</p> <p>Conclusion Our findings regarding the contribution of micro-CT to the evaluation of trabecular bone could be a promising research approach for application in a larger study population.</p>

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