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Correlations between joint morphology and pain and between magnetic resonance imaging, histology, and micro-computed tomography.

Link TM.

Source

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Abstract

Chronic or recurrent pain in the knee is a central feature of osteoarthritis, and diagnostic imaging techniques that are used to evaluate osteoarthritis ideally should correlate with the amount of pain. However, consistent correlations have not been found between pain and radiographic and magnetic resonance imaging findings consistent with osteoarthritis (i.e., cartilaginous, ligamentous, and meniscal abnormalities) or between pain and radiographic grades that are used to assess osteoarthritis. On the other hand, an association between bone marrow edema pattern on magnetic resonance images and knee pain has been suggested. To better understand the evolution of osteoarthritis and the importance of imaging findings in relation to joint morphology and function, the histological basis of magnetic resonance imaging findings was studied and the adaptation processes of trabecular bone induced by osteoarthritis were analyzed. In addition to summarizing the current knowledge on pain and imaging findings, the current review presents available data that demonstrate the ability of noninvasive radiographic techniques to depict cartilage-bone interactions in patients with joint degeneration.