Comparison of multislice CT arthrography and MR arthrography for the detection of articular cartilage lesions of the elbow.

The objective of this study was to compare the value of multislice CT arthrography and MR arthrography in the assessment of cartilage lesions of the elbow joint. Twenty-six cadaveric elbow specimens were examined with the use of CT arthrography and MR arthrography prior to joint exploration and macroscopic inspection of articular cartilage. Findings at CT and MR arthrography were compared with macroscopic assessments in 104 cartilage areas. At macroscopic inspection, 45 cartilage lesions (six grade 2 lesions, 25 grade 3 lesions, 14 grade 4 lesions) and 59 areas of normal articular cartilage were observed. With macroscopic assessment as the gold standard CT and MR arthrography showed an overall sensitivity/specificity of 80/93% and 78/95% for the detection of cartilage lesions, respectively. Only two of six grade 2 lesions were detected by CT and MR arthrography. For the diagnosis of grade 3 and 4 lesions, the sensitivity/specificity was 87/94% with CT arthrography, and 85/95% with MR arthrography. In an experimental setting multislice CT arthrography and MR arthrography showed a similar performance in the detection of cartilage lesions. Both methods indicated limited value in the diagnosis of grade 2 articular cartilage lesions.

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