

AAOS: New MRI Techniques Benefit Cartilage Damage Diagnosis

New MRI techniques are making it easier to diagnose cartilage damage earlier, which may result in fewer hip replacements in young patients, according to a presentation at the American Academy of Orthopaedic Surgeons (AAOS) annual meeting in San Diego.

Paul Beaulé, MD, of the Joint Replacement Institute, said he advocated reducing the incidence of hip replacement in young patients as a quality-of-life issue. While open surgery is safe and effective, the procedure can result in significant morbidity for the patient, he added.

Beaulé said new imaging techniques do more than simply capture gross morphology. By using biomarkers, a more precise portrayal of joint tissue and pathology can be provided.

Panelists at a discussion also noted that x-rays may be beneficial in cases of moderate to severe osteoarthritis. However, in cases with moderate or very focal chondral changes, radiographs are ineffective, and MRI should be the modality of choice. MRI allows direct visualization of hyaline cartilage and can localize and characterize fissures, thinning, and full-thickness defects, the panelists concurred.

In addition, the orthopedists extolled high-resolution MRI, which features thinner slices and no contrast agents, as a more viable option compared to MR arthrography, which can have poor sensitivity, specificity, and accuracy, as well as poor interobserver correlation.

Source: Wayne Forrest, AuntMinnie.com

MRI Helps Decide Therapy for Stroke Patients

Research presented at the International Stroke Conference 2011 in Los Angeles showed that MRI can help distinguish patients who might benefit from clot-busting drugs, with acceptable risk.

Lead study author Dong-Wha Kang, MD, PhD, associate professor in the department of neurology at Asan Medical Center, University of Ulsan College of Medicine, in Seoul, South Korea, noted that response to a stroke as soon as possible is critical, because clot-busting drugs have proved effective at reducing disability up to 4.5 hours after symptom onset.

Researchers used MRI to screen 430 patients with unclear-onset stroke at six university hospitals in South Korea. More than 80 patients with severe stroke were eligible for clot-busting therapy. Some patients also had their clots removed mechanically or underwent stenting.

Among those who received the drug therapy, approximately 45% had at least a "good" clinical outcome, ranging from no symptoms to slight disability with curtailed activities. Almost 29% had an excellent clinical outcome and were able to resume normal activities with little or no impairment.

Source: Wayne Forrest, AuntMinnie.com



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Spring 2011

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CEUS Characterizes Incidental Liver Lesions on CT, MRI

Contrast-enhanced ultrasound (CEUS) can effectively characterize solid focal liver lesions detected as incidental findings in the noncirrhotic liver, potentially avoiding the need for biopsy, according to research from the University of Trieste in Italy.

In a retrospective study of 55 patients, the group found that CEUS significantly improved diagnostic performance and reader confidence in characterizing solid focal liver lesions judged to be indeterminate after analysis of contrast-enhanced CT and/or MR.

In 43 of 55 focal liver lesions, ultrasound findings would have obviated the need for biopsy.

Even though incidental focal liver lesions are mainly benign, they may present with equivocal enhancement patterns on contrast-enhanced CT or MR. This may occur because of incorrect scanning time or the true presence of atypical contrast enhancement or persistent lesion hypovascularity during the different dynamic phases.

Source: Erik L. Ridley, AuntMinnie.com

Imaging in the News

MRI shows a number of changes in the throwing elbows of uninjured, asymptomatic male high-school-aged baseball pitchers, suggesting the degenerative changes seen in the adult throwing elbow from the repetitive loads experienced during pitching are initiated during adolescence.

Researchers say **MRI is useful in determining the anatomic origin of uterine cancer** and also provides helpful information regarding invasion of adjacent structures, which is critical to appropriate treatment planning.

Immediate adverse reactions to gadolinium-based MRI contrast are rare, but they do occur, according to a new study. What's more, some gadolinium agents have different adverse event rates than others.

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May 11 - Alzheimer's and Dementia

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