Ultrasound effective on its own for evaluating MSK symptoms—no follow-up MRI needed

May 08, 2018 | Michael Walter

Musculoskeletal (MSK) ultrasound rarely misses significant imaging findings, making follow-up MRI examinations largely unnecessary, according to a new study published by the Journal of the American College of Radiology.

“The goal of this project was to determine whether MRI provides additional diagnostic value after an ultrasound examination has been performed,” wrote lead author Lulu He, DO, department of radiology at Mercy Fitzgerald Hospital in Darby, Pennsylvania, and colleagues. “We hypothesized that when used appropriately, ultrasound examinations provide results that are comparable with those obtained with MRI and that MRI performed after ultrasound therefore rarely changes the diagnosis.”

The authors collected data from 129 MRI examinations performed within 90 days after MSK ultrasound from Jan. 5, 2012, to Nov. 27, 2015. Patients were excluded if the MRI was performed more than 90 days after MSK ultrasound or if the patient was younger than 10 years old. Two experienced MSK radiologists than independently compared the ultrasound and MRI radiology reports. Reports were considered to be concordant if there was “no difference” or a “minor difference” between the ultrasound and MRI results. They were considered to be discordant if a “potentially clinically important difference” between the results was identified by the radiologists.

Overall, one reader categorized the ultrasound and MRI reports as concordant for 113 of the 129 cases. The other reader categorized the ultrasound and MRI reports as concordant for 115 of the cases. The two radiologists had 98 percent agreement.

“Our findings substantiate and support the conclusion that the use of ultrasound in place of MRI does not compromise diagnostic accuracy and offers the potential for substantial cost savings,” the authors concluded.