

MRI unable to find explanation for hip pain in metal-on-metal total hip arthroplasty patients

MADRID – There are no specific MRI findings that explain the hip pain found in patients with metal-on-metal total hip arthroplasty or high metal ion levels, **Vasileios Nikolaou** reported.

Nikolaou’s group aimed to determine the specific MRI findings in patients with persistent painful metal-on-metal hip arthroplasty and compare those results with a control of patients who had metal-on-metal or metal-on-polyethylene total hip arthroplasty (THA) without painful symptoms.

Four groups of patients

“A small proportion of patients with metal-on-metal implants complain about groin pain after surgery,” Nikolaou said. “It is difficult to determine the cause of the pain in these cases – there are many potential sources.”

The team looked at 20 patients who had undergone primary THA, dividing them into four groups: those who had metal-on-polypropylene THA or resurfacing without pain (control group), those who had metal-on-metal THA or resurfacing with high levels of metal ions and reported pain, those who had metal-on-metal THA or resurfacing with high levels of metal ions and reported having no pain, and those who had metal-on-metal THA or resurfacing with low levels of metal ions and reported no pain. There were five patients in each group.

Operated hips were evaluated with MRI by one musculoskeletal radiologist who was blinded to the radiographic findings and clinical symptoms, Nikolaou reported. All of the images collected were assessed for the presence of juxtaarticular or periprosthetic abnormalities – including fluid collections, soft tissue masses, osseous abnormalities, and patterns of contrast enhancement lesions.

Still a mystery

Nikolaou said that all of the patients had undergone their THA at least 1 year prior to their MRI examination, with a mean of 18 months. The MRIs found nothing specific about any one group that set it apart from the others, and Nikolaou noted that muscle atrophies, joint effusion, stress fractures, bone marrow oedema and muscle avulsions were equally distributed among all groups in the study.

“In our study [the findings] between patients with different metal ion levels and symptoms would suggest that the MRI findings cannot reliably explain the basis of pain associated with metal-on-metal total hip arthroplasty,” Nikolaou said.

Nikolaou also reported an increased incidence of pseudotumors in patients who go through a metal-on-polyethylene THA, and said its incidence “may be underreported.”