

MR arthrography of the hip: differentiation between an anterior sublabral recess as a normal variant and a labral tear.

Studler U, Kalberer F, Leunig M, Zanetti M, Hodler J, Dora C, Pfirrmann CW. *Radiology*. 2008 Dec; 249(3):947-54. Epub 2008 Oct 7.

PURPOSE: To retrospectively evaluate imaging characteristics of surgically proved sublabral recesses and labral tears in the anterior portion of the acetabulum at magnetic resonance (MR) arthrography.

MATERIALS AND METHODS: Institutional review board approval was obtained; informed consent was waived. The study included 57 patients (36 women [mean age, 37 years], 21 men [mean age, 32 years]) who underwent MR arthrography and either surgery or arthroscopy as reference standard. On MR images, location of sublabral contrast material interposition and depth, shape, and extension into the labral substance of contrast material interpositions were described. Abnormal labral signal intensity (areas of high signal intensity), acetabular cartilage lesions, osseous abnormalities, and perilabral cysts were noted. Mann-Whitney U and Fisher exact tests were performed; interobserver agreement was calculated (kappa statistic and intraclass correlation coefficient).

RESULTS: Surgical procedures revealed that 10 (18%) of 57 patients had recesses and 44 (77%) of 57 had tears. Locations of recesses and tears, respectively, were as follows: seven and none, in the 8-o'clock position; two of each, in the 9-o'clock position; one and 22, in the 10-o'clock position; and none and 20, in the 11-o'clock position. None of the recesses extended into the substance of the labrum or through the full thickness of the labral base; 51% (22 of 43) of tears extended into the substance and 49% (21 of 43) of tears extended along the entire labral base. Shape of sublabral contrast material interposition was linear in five (83%) of six recesses and 21 (49%) of 43 tears. Recesses were not associated with abnormal signal intensity of the labrum, cartilage lesions, osseous abnormalities, or perilabral cysts. Of 43 tears, 32 (74%) were associated with abnormal signal of the labrum; 23 (53%), with cartilage damage; 11 (26%), with osseous abnormalities; and eight (19%), with perilabral cysts.

CONCLUSION: Recesses occur as normal variants in the anteroinferior part of the acetabulum. Location in the 8-o'clock position, linear shape of contrast material interposition, partial separation of the labrum, and absence of perilabral abnormalities are characteristics of a recess.

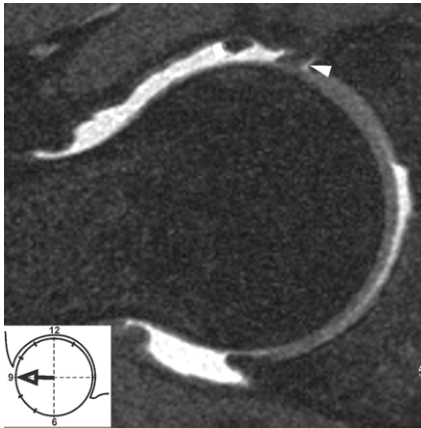


Figure 1 Sublabral recess in 9-o'clock position of right hip in 35-year-old woman. Partial separation of labrum from adjacent acetabulum (arrowhead) is seen on transverse oblique water-excitation true fast imaging with steady-state precession MR arthrogram. Contrast material interposition corresponding to recess has a linear form with regular margins. Adjacent labrum shows normal shape and signal intensity.

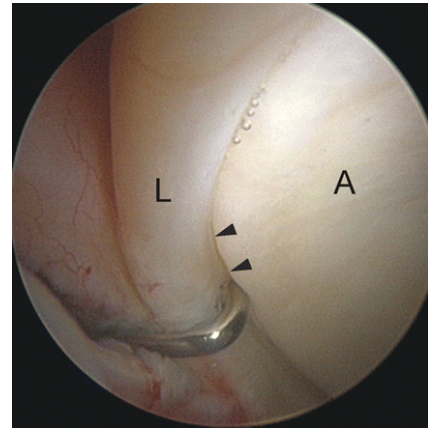


Figure 2 Corresponding arthroscopic image shows sublabral recess (arrowheads) at base of normal labrum (L). Labrum was stable at probing. Normal acetabular cartilage (A) was present.

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