Evaluation of the Ultrasound Diagnostic Ability for the Subscapularis Tendon Tear and Subjective Assessment of the Fatty Infiltration of the Rotator Cuff

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Abstract

Purpose: The purpose of this study was to assess the diagnostic accuracy of ultrasonography (US) and to compare the findings between magnetic resonance imaging (MRI) and US in patients with subscapularis tendon tear.

Methods: We evaluated a retrospective case series to compare the findings of preoperative US with those of arthroscopic inspection. Twenty-five patients, who underwent arthroscopic surgery, preoperative US and MRI examinations at Gifu University Hospital from October 2016 to August 2017 (18 males, 7 females, mean age 51.3±19.6) were included in this study. The fatty infiltration to rotator cuff was determined by MRI.

Results: We examined 16 right and 9 left shoulders. There were 18 shoulders with no subscapularis tear, and 7 with tear. Regarding the subscapularis tendon, the sensitivity, specificity and diagnostic accuracy of US and MRI were 100% and 85.7%, 94.4% and 94.4%, 96.0% and 92.0%, respectively, when the intraoperative finding was regarded as a gold standard. Consequently, Goutallier's classification grades correlated significantly with the US simple grading assessment (suprasupinatus, $r=0.905$, $p<0.001$; infraspinatus, $r=0.824$, $p<0.001$).

Conclusion: The study suggests that US is useful for the diagnosis of subscapularis tendon tear.

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