Reviewer’s report

Title: Magnetic resonance imaging reproducibility for rotator cuff partial tears in patients up to 60 years.

Version: 0 Date: 20 Jun 2019

Reviewer: Debora Azevedo

Reviewer's report:

The goal of this paper is to assess intraobserver and interobserver agreement for detection the supraspinatus partial-thickness tears among orthopaedic surgeons and musculoskeletal (MSK) radiologists. They also assessed the intraobserver and interobserver agreement for detecting biceps tendinosis, acromial morphology, acromioclavicular joint arthrosis and muscle fatty infiltration.

They retrospectively review a cohort of 60 digital MRI performed from April to May 2017 in a Brazilian healthcare institute.

All the exams were reviewed by two orthopaedic shoulder surgeons, two MSK radiologists, two orthopaedic fellowship-trained shoulder surgeons and two fellowship-trained orthopaedics. The intra and interobserver agreement variability was measured by kappa index.

After some exclusions, the authors found that the intraobserver agreement for supraspinatus tears were moderate among MSK radiologists and the orthopaedic shoulder surgeons and fair among the fellowship-trained shoulder surgeons and the fellowship-trained orthopaedics. The intraobserver agreement was good. Intraobserver agreement was moderate for biceps tendonosis, acromial morphology, acromioclavicular joint arthrosis and muscle fatty infiltration. The interobserver agreements for supraspinatus tears were fair and poor among the evaluators: the MSK radiologists and the orthopedists shoulder surgeons had the highest agreement.

The authors concluded that higher level of experience (the orthopaedic shoulder surgeons and the MSK radiologists) had better results for intra- and interobserver agreement. And that MRI has a good reproducibility for evaluation of supraspinatus partial, but not for the pathologies associated with rotator cuff tears.

I have few comments:

1) The written English is very good. I could see only one misspelling in the 13th line of 4th page: "Tirty-two partial-thickness tears..."
2) The pictures are adding value to the paper.

3) The studies were chosen by a random radiologist and there was no surgical comparison. Surgical comparison would give more reliability to the study.

4) Lack of discussion about the reasons for the poor agreement for the assessment of the associated pathologies with RCRs.

5) Lack of discussion about the reasons MSK radiologists and orthopaedic surgeons have the same Kappa grade. The same for the MSK radiologists fellows and orthopaedic surgeons fellows.

6) The authors didn't say how experienced are the MSK radiologists and orthopaedic surgeons.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

Quality of written English
Please indicate the quality of language in the manuscript:

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