Author’s response to reviews

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

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Response to the reviewer reports:

Domenico Albano (Reviewer 1): - The reliability is a crucial element of a diagnostic test applied in clinical practice. However, previous studies, more than what reported by the authors, have already tested the inter and intra-rater agreement in shoulder MRI to investigate the reliability of this examination, also including arthroscopic findings to assess the diagnostic performance of the reviewers. Further, previous works have tested the reliability of observations made by radiologists and other physicians, fellows and specialists with variable years of experience.

Response: There are others studies that have tested the inter and intra-rater agreement between radiologists and orthopaedics, however, there is a lack of studies that evaluated in the same study the agreement for partial tears between MSK radiologists, shoulder surgeons, fellowship-trained shoulder surgeons, and fellowship-trained orthopaedics; for this reason, we decided to perform this study with these evaluators.
The MRI protocol used in this paper and reported in M&M does not make sense, only T2 weighted and t1-weighted with fat sat! Why did you decide to use fat suppression in T1 weighted images if you didn't perform MR arthrography? I really don't understand the usefulness of this sequence in standard MRI protocol. Moreover, t2 weighted images could have underestimated some tears leading to miss some partial thickness tears. Why don't you use fat saturated PD or T2-weighted images?

Response: We used the protocol of scans of the institution, and the evaluation of the tears were focused on the T2-weighted scans. The T1 weighted scans were used to evaluate mainly the fat infiltration.

Authors concluded stating that higher experience is related to higher reliability. Actually, looking at your results reported in the tables, this statement is mainly justified by data from reproducibility on partial thickness tears. In this regard, why did you entitle your work as it would be focused on partial thickness supraspinatus tears when you investigated also long head biceps pathology, AC joint arthritis, a criminal morphology and? Moreover, I would underline the fact the higher results obtained in terms of agreement between senior radiologist and surgeon were actually poor thereby affecting the reliability of this imaging modality which is considered the gold standard technique in this setting, together with MR arthrography.

Response: We entitled our work in this way because the main focus was to evaluate the reproducibility for partial thickness tears. The others agreements were secondary in our work. We can propose a future study evaluating reproducibility using the MR arthrography.

Several outstanding grammatical errors, so English editing by a native speaker is needed.

Response: We made the grammatical corrections.

Poor discussion, authors didn't discuss their results on the different pathological condition of the shoulder.

Response: We improve the discussion

Years of experience of the radiologist?

Response: More than five years of experience. We included in the Methods (line 135 in Methods section)
Frederico Miranda (Reviewer 2): This paper needs grammar and english corrections.
Response: There were made the grammar and English corrections

Debora Cristina Azevedo, M.D. (Reviewer 3):
1) I could see one misspelling in the 13th line of 4th page: "Tirty-two partial-thickness tears..."
Response: There was corrected

2) The studies were chosen by a random radiologist and there was no surgical comparison. Surgical comparison would give more reliability to the study.
Response: This is a weakness of the study. We included in the discussion.

3) Lack of discussion about the reasons for the poor agreement for the assessment of the associated pathologies with RCRs.
Response: There was done this discussion

4) 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.
Response: There was done this discussion

5) The authors didn’t say how experienced are the MSK radiologists and orthopaedic surgeons.
Response: We included in the methods: more than five years of experience