Re: Muscle fatty infiltration in rotator cuff tears: Descriptive analysis of 1688 cases, published in 10.1016/j.otstr.2009.05.001

We read with great attention the very interesting article by B. Melis et al., “Muscle fatty infiltration in rotator cuff tears: descriptive analysis of 1688 cases”. We were pleased to see that the authors have been able to prove statistically what we believe we have demonstrated in our various reports. Here we shall discuss only muscle degeneration assessment.

The five-stage classification according to the respective amounts of fat and muscle, which we drew up with J. Bernageau, has been followed. Combining stages 0 and 1 and stages 3 and 4 for statistical purposes does not worry us: we have come across stages 0 and 1 in normal shoulders, and muscle function is severely impaired in both stages 3 and 4. On the other hand, we would criticize:

1) using coronal and sagittal as well as axial slices to assess supraspinatus fatty degeneration;
2) the way supraspinatus, infraspinatus and subscapularis fatty degeneration was scored from the axial slices in the published figures.

We consider that fatty degeneration should be assessed along the entire mediolateral part of the muscle, as we found more fat in the distal than in the proximal part. The Y-view used as reference in assessing fatty degeneration in the sagittal plane gives an overestimation as compared to the axial slice. The fatty degeneration value found in the axial plane would require averaging between that found in the Y-view and in a more medial sagittal slice taken through the mid-third of the scapular fossae [1]. Likewise, a frontal slice is liable to overestimate fatty degeneration compared to an axial slice if the former is not parallel to the scapular fossae and fails to include the proximal part of the muscle, as in Fig. 1 for stages 3 and 4. Thus the mean fatty degeneration between the three views (axial, Y and frontal) would tend to overestimate supraspinatus degeneration as compared to assessment from an axial slice alone.

The authors' way of scoring supraspinatus, infraspinatus and subscapularis degeneration on the axial slices does not seem to us to match the definition for so-called stage 3 in Figs. 1–3: we would have classified the supraspinatus in Fig. 1, the subscapularis in the lower slice in Fig. 2 and the infraspinatus in the lower slice in Fig. 3 as stage 2 (more muscle than fat).

This tendency to overestimate degeneration as compared to the primary assessment is liable to alter the correlations we established between the pre-operative fatty degeneration index (mean degeneration of the main three cuff muscles) and the chance of anatomically successful cuff tear suture on the one hand [2,3] and postoperative functional results of successful or failed suture and non-repair management of cuff tear on the other [3,4].

Conflict of interest statement
None.

References
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