Reviewer’s report

Title: Predictors of short-term outcome of corticosteroid injections in rotator cuff disease, a prospective study

Version: 2 Date: 19 June 2010

Reviewer: Giuseppe Milano

Reviewer’s report:

1. Major Compulsory Revisions

The paper investigated the role of sociodemographic and occupational factors, and clinical and radiological factors on outcome in patients with rotator cuff disease and treated by corticosteroid injections.

The paper missed a hypothesis, although lack of association between pathoanatomy of rotator cuff and clinical outcome of conservative treatment appeared as a concealed hypothesis. Based on this issue, the authors considered usefulness of imaging studies in the initial examination of patients with shoulder pain as a questionable approach. I have few comments on this issue. In the background and discussion sections, you pointed out that structural change of rotator cuff can be found in asymptomatic patients (L62-63, and L254-256), also referring to previous papers (refs 11-13). Indeed, ref 11 is out of date, and did not assess prevalence of rotator cuff tears in symptomatic and asymptomatic individuals according to tear size. Schibany et al (ref 12) reported a prevalence of 90% of full-thickness tears in asymptomatic subjects; however, the lesion was always limited to the supraspinatus tendon; furthermore, subjects with tendon tear showed a decreased strength. Similar findings, but with a much lower prevalence was reported by Moosmayer et al (ref 13). Moreover, the same author subsequently reported that symptomatic cuff tears are more severe than asymptomatic tears for size, and muscle degeneration (see: 1: “Moosmayer S, Tariq R, Stiris MG, Smith HJ. MRI of symptomatic and asymptomatic full-thickness rotator cuff tears. A comparison of findings in 100 subjects. Acta Orthop. 2010 Jun;81(3):361-6.”); anyway, surgical treatment of small tears provided better results than conservative treatment (see: “Moosmayer S, Lund G, Seljom U, Svege I, Hennig T, Tariq R, Smith HJ. Comparison between surgery and physiotherapy in the treatment of small and medium-sized tears of the rotator cuff: A randomised controlled study of 103 patients with one-year follow-up. J Bone Joint Surg Br. 2010 Jan;92(1):83-91.”).

In my opinion, an isolated full-thickness tear of the supraspinatus tendon can be compatible with an apparently normal function, as theorized by Burkhart (see: “Burkhart SS, Esch JC, Jolson RS. The rotator crescent and rotator cable: an anatomic description of the shoulder's "suspension bridge". Arthroscopy. 1993;9(6):611-6”; and: “Burkhart SS. Fluoroscopic comparison of kinematic patterns in massive rotator cuff tears. A suspension bridge model. Clin Orthop

In your study, you did not assess rotator cuff tears according to location and size; furthermore, you did not consider other potential sources of pain, such as subacapularis tears, hidden lesions of the rotator interval, and/or biceps lesions or instability (subluxation or dislocation), which can occur also without a rotator cuff tear.

Nevertheless, six-week follow-up is very short to evaluate efficacy of the treatment; on the contrary, assessment of duration of clinical improvement according to pathoanatomy would be very useful information to clinical practitioners.

Based on the previous comments, I would reconsider statements assessed on the utility of imaging studies, and revise discussion on addressing sources of systematic & random introduction of bias, also identifying them as methodological flaws and shortcomings of the study.

2. Minor Essential Revisions

In the Background section, you have to state a hypothesis of the study.

L60-61: I suggest providing references on accuracy of imaging in discriminating pathoanatomy of rotator cuff.

In the Methods section, you have to define the primary outcome. Furthermore,
power analysis and sample size calculation for the stated purpose was not provided.

Results:
L 165: First sentence is duplicated in table 1.

**Level of interest:** An article of limited interest

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

'I declare that I have no competing interests'