Author’s response to reviews

Title: Concomitant glenohumeral pathologies in high-grade acromioclavicular separation (type III - V)

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The authors' response letter has additionally been included as a supplementary file

CONCOMITANT GLENOHUMERAL PATHOLOGIES
IN HIGH-GRADE ACROMIOCLAVICULAR SEPARATION (TYPE III – V)
Point-by-point response letter illustrating changes made

Chi-Chuan Wu, M.D. (Reviewer 1):

Only arthroscopic findings are reported without analysis of patho-mechanism. The relationship among your findings needs to be comprehensively explained in the first paragraph of Discussion section- (from basic science viewpoints why you achieve these findings). i.e. Validity of the study is unclear.

Answer: Thank you very much for this comment. Due to the kind of study as descriptive arthroscopic study, we are not able to give a definite answer to the exact cause of concomitant injuries. This was not the aim of the study. We think that the relevant and constructive message of our study is, that an arthroscopic evaluation of a shoulder joint is obligatory in ACJ separation.
For better understanding and following your recommendation we added the following sentences.

Line 188 – 191: added: Most interestingly there was no difference of frequency or etiology of concomitant pathologies between the different Rockwood types. The patho-mechanism of the ACJ separation would suggest that with rising force during impact it is more likely for intraarticular lesions to occur. In our study group this was not the case.

Line 176 – 179: added: In the older age group ACJ separation did not necessarily occur during sporting activity and no predominant trauma mechanism could be found. With higher age the rate of preexisting degenerative defects is higher as well. Therefore a rising incidence of ACJ separation even during minor trauma is plausible.

1. In lines 75,76, the description is unclear.

Answer: Thank you very much for this remark. We corrected

Line 75/76: to: During acromioclavicular separation the ligamentous structures rupture first. With higher force the musculoskeletal structures rupture as well.

2. You had reported the results of statistical comparison, but the testing methods were lack. It should be described in Materials and Methods. What software?

Answer: Thank you very much for this remark and sorry for not mention it.

We added line 127-130  The data was analyzed with SPSS for Windows, Version 22 (SPSS, Chicago, IL, USA). Probability distribution was determined with the Kolmogorov-Smirnov test. Statistical significance was calculated with the Chi-Square test and in the case of small case numbers, Fisher’s exact test was used.

3. The style of reference writing is correct? All should be consistent.

We corrected line 263: added parenthesis around 2007

Yun-Feng Yang, M.D.,Ph.D. (Reviewer 2):

1. This study is a good descriptive research to identify the incidence of concomitant injuries in patients with acromioclavicular separation as well as to reveal potential risk constellations. The number of the patients included is sufficient and analyzed in detail.
2. All patients in this study were operated and detected by arthroscopy, what about the patients without Operation? This will lead to bias in the conclusion.

Answer: Thank you very much for this comment. As mentioned above the kind of this study is a descriptive arthroscopic study. We think that the relevant and constructive message of our study is, that an arthroscopic evaluation of a shoulder joint is obligatory in ACJ separation. For knowing what is happening to patients without operation, possibly a radiological (MRI) study can be useful in another setting.

3. Beside the arthroscopy during operation, how to diagnosis the acromioclavicular separation so as to determine the incidence of concomitant injuries.

Answer: We are not sure if we got the comment correctly… Diagnosis of acromioclavicular separation was done prior to surgery in the mentioned x-rays. So all operated patients had a radiological proof of AC separation prior to the arthroscopy. Arthroscopy was performed to detect and possibly treat concomitant injuries along with AC joint reconstruction.

4. We need X-ray or other necessary image to illustrate the concomitant injuries.

Answer: Thank you for this remark. We had X-rays of all patients as well as saved arthroscopic images of the surgery proving the concomitant injuries. Presentation of all these pictures would be too much for this publication.

For more detailed explanation and following your recommendation we added the following sentence in

Line 182 – 187: Since only surgically treated patients were included into the study group the real total of Rockwood type III patients will most likely be higher. There is no definite conclusion about accompanying injuries in all Rockwood III patients (regardless if conservatively or surgically treated). Additional studies concerning concomitant pathologies in conservatively treated Rockwood III cases should be performed (e.g. MRI studies).

Thank you very much for your review!