Reviewer's report

Title: Association between Expression of the Bone morphogenetic proteins 2 and 7 in the repair of circumscribed cartilage lesions with clinical outcome

Version: 2 Date: 12 May 2010

Reviewer: Michael Raschke

Reviewer's report:

1. Is the question posed by the authors well defined?

As stated in the introduction the present study tries to answer the question if there is a correlation between the concentration of BMP-2 and BMP-7 in knees and the clinical outcome after surgery for cartilage repair.

The aim of the study is well defined and the question to be answered posed precisely.

2. Are the methods appropriate and well described?

In the material and methods section the inclusion and exclusion criteria are described in detail. The authors also give accurate information on the operation protocols, specimen collection, characterization of patients, grading of cartilage damage, methods used for protein quantification and statistics.

All methods used in the present study are well approved and have already been published in a series of different studies.

3. Are the data sound?

The present study shows a significant correlation between the concentration of BMP-2 in the joint fluid and the clinical outcome one year after surgery.

Former studies could proof a correlation between cartilage regeneration and the degree of clinical improvement as well as a stimulating effect of BMP-2 on the collagen II expression a proteoglycan synthesis.

For this reason the results of this study are in accordance with the data found in literature.

4. Does the manuscript adhere to the relevant standards for reporting and data deposition?

The data is clearly arranged in figures, mean and standard deviation as well as p values are given whenever needed.

5. Are the discussion and conclusion well balanced and adequately supported by the data?

The discussion sets the data obtained in this study into perspective to what is
already known about the role of BMP-2 and BMP-7 in joint metabolism and cartilage regeneration. The conclusions made by the authors are supported sufficiently by the data.

In the conclusion section it is stated, that BMP-2 is found in patients with cartilage lesions. However in the result section the concentration of BMP-2 in the control group and in patients with cartilage damage shows no significant difference. BMP-2 expression did also not correlate with the defect size.

For this reason it seems as if this study does not give any evidence that BMP-2 plays an important role in the onset of osteoarthritis.

Furthermore a perspective for further studies is missing in this part of the manuscript.

6. Are limitations of the work clearly stated?

Unfortunately the authors do not comment on limitations of their work. For example it does not become clear if the reason for the elevated BMP-2 levels really is the cartilage surgery or if the elevation is caused by the arthrotomy itself. It would also be interesting to see if the control group had elevated BMP-2 levels after arthroscopy alone.

7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished?

All works the present study is based on are cited in the text.

8. Do the title and abstract accurately convey what has been found?

Title and abstract give a good overview of the aim, methods and results of the study.

9. Is the writing acceptable?

The study is written in excellent English without major mistakes in grammar, spelling or expression.

Report template
Confidential comments to the editors
- None
Reviewer ’s report
Discretionary Revisions
- None
Minor essential Revisions
1. Please comment on the limitations of your study
2. Please revise the conclusion, correcting your statement on the association of BMP-2 levels and cartilage damage

Major compulsory Revisions
- None

Level of interest: An article whose findings are important to those with closely related research interests

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'