Peer Review Report

Review Report on In situ oxidative stress in patients with epiretinal membrane

Original Research, Acta Biochim. Pol.

Reviewer: Jozef Židzik
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EVALUATION

Q 1 **Please summarize the main findings of the study.**

The submitted article: In situ oxidative stress in patients with epiretinal membrane, aims to investigate the correlation between oxidative stress in the human epiretinal membrane (ERM) and retinal morphological changes. The study found no significant correlation between the level of oxidative stress in ERM and retinal morphological changes.

Q 2 **Please highlight the limitations and strengths.**

The article provides a valuable insight into the possible role of the oxidative stress in vitreoretinal region and the etiology of ERM formation and might represent the unique assessment of the total oxidant status in vivo in internal retinal layers and in epiretinal membranes. I was not able to detect any major limitations of the current study.

Q 3 **Please comment on the methods, results and data interpretation. If there are any objective errors, or if the conclusions are not supported, you should detail your concerns.**

The choice of methods seems to appropriate the aim of the study. Authors used the proper statistical tools for the analysis of the results. The results are clear and comprehensible, and the discussion and conclusions are logical.

Check List

Q 4 **Please provide your detailed review report to the editor and authors (including any comments on the Q4 Check List)**

The goal of the study was to investigate the correlation between oxidative stress in ERM and retinal morphological changes. In theory, the oxidative stress, which results from the imbalance between free radicals and antioxidants in the body, is an important factor leading to cellular damage, contributing to the tissue inflammation and formation of ERM. Authors have collected and examined the posterior vitrectomy samples from 35 patients divided into 3 groups, based on the preoperative retinal morphology in optical coherence tomography. Total oxidant status of the samples was measured and the statistical analysis of collected data was performed. The article is well organized and contains all the components you would expect i.e. Introduction, Material and Methods, Results, Discussion, and Conclusions. All the sections are well-developed. The authors made a good job with clearly explained methodology in Materials and Methods section, which might help with the better reproducibility of their work. Result section is comprehensible and Discussion appropriate. Authors used the references with an acceptable number of the self-citations. Overall, the article is well-written. Authors answer the questions they set out to answer.

I would like to kindly ask the authors to answer the following question: Did you question the patients about the use of the antioxidant supplement like vitamin C, E, lutein, zeaxantin? May these supplements influence and help manage oxidative stress in studied tissues and thus be beneficial for the overall eye health?

Specific comments

- Paragraph 2 of Introduction, lines 39-44: It is recommended to mention retinal pigment epithelium cells, which have been identified as myofibroblast precursors in ERM, because myofibroblast differentiation is regarded as a critical event in idiopathic ERM development and progression.
- Line 67: Line 205: (11) is an inappropriate number of reference, because Rokicki et al. is listed as (10) in Literature section.
- Please check for the accuracy of the in-text numerical references with the Literature. More inaccuracies like this are presumably present in the text.

Q 5 **Is the English language of sufficient quality?**

Yes.

Q 6 **Is the quality of the figures and tables satisfactory?**

Yes.

Q 7 **Does the reference list cover the relevant literature adequately and in an unbiased manner?**

Yes.

Q 8 **Are the statistical methods valid and correctly applied? (e.g. sample size, choice of test)**

Yes.

Q 9 **Are the methods sufficiently documented to allow replication studies?**

Yes.

Q 10 **Are the data underlying the study available in either the article, supplement, or deposited in a repository? (Sequence/expression data, protein/molecule characterizations, annotations, and taxonomy data are required to be deposited in public repositories prior to publication)**

No answer given.

Q 11 **Does the study adhere to ethical standards including ethics committee approval and consent procedure?**

Yes.

Q 12 **Have standard biosecurity and institutional safety procedures been adhered to?**

Yes.

QUALITY ASSESSMENT

Q 13	Originality	
Q 14	Rigor	
Q 15	Significance to the field	
Q 16	Interest to general audience	
Q 17	Quality of the writing	
Q 18	Overall quality of the study