Reviewer's report

Title: Levels of oxidative stress biomarkers in seminal plasma and their relationship with seminal parameters.

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Reviewer: Maciej Kurpisz

Reviewer's report:

General This paper is convincing evidence for measurements of enzymatic and non enzymatic antioxidants in respect to influence of oxidative stress on male infertility. A suggested panel of TAC measurement as well as 8-Isoprostane levels seem to me quite conclusive for the redox status of semen.

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached). It appears from the paper, however, that only the fraction of isoprostane released to seminal plasma (probably shed from the cell membranes) was evaluated. This must be clearly stated throughout the paper but clearly it should be described in Methods. Not everywhere it is sufficiently emphasized that only an isoprostane fraction shedded to seminal plasma was measured. It is also a need to add the other crucial papers related to the subject both in Background and Discussion where hypothesis on the role of SOD and catalase was put forward for explanation of the spermatogenic disturbances. I have specifically on my mind - papers by Sanocka et al., J Androl, 1996; 17: 449-454, Sanocka et al., Int J Androl, 1997; 20: 255-264. It must be specifically addressed in Discussion why do the authors think that catalase can be exhausted without prior activation of SOD. There is a chain of events in oxidative stress - first SOD must be hyperactivated in order to exhaust catalase. However, the authors report (see, in the produced tables) significantly less of catalase without a difference in SOD activities?! How this could be explained?! I also do not understand (Discussion) what do the authors mean by expression 'indirect correlation'?! Indirect, does it mean when A correlates with B and A with C, does it imply that indirectly B and C are interrelated despite the fact that they do not correlate directly?! This must be explained in the text!! The English needs attention throughout the paper but specifically in Abstract!

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

Discretionary Revisions (which the author can choose to ignore)

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

Level of interest: An article of importance in its field

Quality of written English: Needs some language corrections before being published

Statistical review: No

Declaration of competing interests:

I declare that I have no competing interests