Reviewer's report

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

Version: 1 Date: 20 November 2006

Reviewer: amalia carpino

Reviewer's report:

General

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

1) RESULTS/DISCUSSION: The second paragraph of the Results is confused: the subgroups or total case group, where the correlations between the biomarkers and the seminal parameters have been observed, have not been specified. Consequently, the discussion of these data is not clear.

2) DISCUSSION: The results of this study can be considered preliminary results. In fact, despite of the facility to collect semen samples from asthenozoospermic, asthenoteratozoospermic and oligoasthenoteratozoospermic patients, the investigation has been performed on a too low number of subjects for each case group. This is true particularly for the 8-isoprostane which has been determined as a new sperm oxidative stress biomarker. The validity of 8-isoprostane as marker of membrane sperm lipid peroxidation should be verified determining the extracellular and/or intracellular ROS levels, particularly in asthenozoospermic group where augmented ROS levels cannot be expected.

3) DISCUSSION: Please explain better the last two lines of the second paragraph (page 11). What is the meaning of “level of normal morphology”?

4) DISCUSSION: The authors state the conflictuality of their data with previous reports (second paragraph) but no explanation has been given about that.

5) CONCLUSION: Can the authors better explain the relation between the decrease of catalase and TAC activity in seminal plasma of teratozoospermic samples and the etiology of sperm abnormality? This statement is probably not well written.

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

1) METHODS: Semen samples
a) The age of normal males and patients is lacking
b) The control group ideally should consist of men with normal semen parameter and proven fertility
c) Hyperviscous semen samples, have been included or not in the case groups? In fact, altered antioxidant levels have been reported in these samples.
Concerning this, the data from Siciliano’s paper have been reported only in part in the Discussion.

2) REFERENCES
a) Some typographic mistakes are present in references 3, 22, 34.
b) The references 17, 18, 22 and 35 have the titles of Journals not abbreviated.
c) Reference 31: Suppl 3 in place of 13

Discretionary Revisions (which the author can choose to ignore)

1) INTRODUCTION Seminal oxidative stress, sperm DNA damage and apoptosis are interlinked in the context of male infertility. Therefore, the authors would add brief details on this.

2) DISCUSSION Should antioxidant supplementation be beneficial in treating these groups of patients?

3) CONCLUSION: the authors state that 8-isoprostane may be used as a specific biomarker for OS. This should be cited in the Title.

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 limited interest

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