Reviewer's report

Title: Effect of different intravenous iron preparations on lymphocyte intracellular reactive oxygen species generation and subpopulation survival.

Version: 1  Date: 14 April 2010

Reviewer: Fabrizia Bamonti

Reviewer's report:

COMMENT
It is an interesting in vitro paper. The experimental plan is well designed and carried out. The findings are interesting but of potentially limited relevance due to the in vitro conditions: cells are, in fact, exposed to theoretically longer iron oversaturation than in vivo. The effects of hyperoxidation after in vivo iron administration are controversial: different iron preparations and modalities of administration are effective but not free from side effects. When transferring results/conclusions from in vitro to in vivo, one needs to be very cautious especially when dealing with pre-dialysis and dialysis patients.

• TITLE and ABSTRACT reflect the paper's content.
• INTRODUCTION presents the problem synthetically and fairly clearly.
• EXPERIMENTAL METHODS AND STATISTICAL ANALYSIS are conducted appropriately and well described.
• RESULTS are clearly described but figures are rather confusing.
• DISCUSSION and conclusions are fairly adequate and results/conclusion justified.

Points considered:
The question posed by the authors is well defined.
The data are sound.
The manuscript adheres to the relevant standards for reporting and data deposition.
The limitations of the work are sufficiently stated.
The authors adequately acknowledge any work upon which they are building, both published and unpublished.

Level of interest: good
It is an article whose findings are important to those with closely related research interests.

Quality of written English: excellent
This manuscript must not be seen by an expert statistician.
REFEEEE'S SUGGESTIONS

Introduction:
Page 3 line 2: cancel the second “are”

Materials and Methods:
Page 4 line 4: centrifugation speed must be expressed in g
Add name and manufacturer of all the instruments used (i.e. incubator, flow cytometer)

Results:
Add “generation or production” after ROS (also in the Discussion)
Page 6 line 2: replace “greater” with higher
Page 6 line 3: replace “significant ROS generation” with “significantly higher ROS generation ……than controls”
Page 6 line 8: specify the meaning of MFI (mentioned for the first time)

Discussion:
Page 8 line 3: explain the meaning of “dysfunctional cellular and functional immunity”
Page 8 line 13: explain the meaning of “adverse effects…………..survival”
Page 8 line 18: We suggest reading the De Vecchi A F et al’s paper (NDT 2007, 22: 1709) when discussing the kinetic profile of ROS
Page 8 line 23: after “experiments” add subject
Page 10 line 9: reference number 18 in brackets

Figure:
1. The histograms representing the controls are confusing: they are not treated with the different iron compounds
2. This figure is unclear: it does not show the three different iron compounds. Data in a table might be clearer.

The manuscript can be accepted for publication after the required changes, with Minor Essential Revisions.

I declare that I have no competing interests.

Fabrizia Bamonti

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