Reviewer's report

Title: Edge restenosis: impact of low dose irradiation on cell proliferation and ICAM-1 expression

Version: 1 Date: 3 May 2006

Reviewer: Joerg Heckenkamp

Reviewer's report:

General
This is well performed and written study about the influence of low dose irradiation on smooth muscle cells and monocytes. The study implicates that irradiation influences smooth muscle cell proliferation but not the expression of ICAM-1 in monocytes. However, the study has limitations, to which the authors refer in their manuscript.

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

Why did the authors limit their experimental time for the prolifeation experiments to 20 days. By lengthening the time maybe the authors would be able to answer the question whether there is a later stimulatory phase in the group treated with 4 and 10 Gy.

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) There are some spelling errors (eg.:page 8 first paragraph line 4 and also in the reference section).
2) Legends section, Fig 2: The last sentence ist speculation, it should be removed.
3) Legends section, Fig 1: It is not clear to me, how the percentage of 80.6 is calculated.
4) Results section: ICAM-1 mRNA levels: How can the authors explain, that there is a high standard deviation at some time points (1Gy,2h) and no standard deviation at other time points. This is of special interest, because in Figure 3 there seems to be a clear difference in ICAM-1 band density between 4Gy and 10Gy 1 hour after irradiation. However, due to high standard deviations in these two groups, the difference does not reach statistical difference. How valuable are these data?
5) Clinical studies implicate a gender difference in cell behaviour when it comes to cardiovascular disorders. Were all patients male or female or did the authors mix the cells from the different patients to achieve homogenous results? If not, did the authors see a difference in cell behaviour related to gender and age?

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: Acceptable

Statistical review: No

Declaration of competing interests:
I declare that I have no competing interests.