Reviewer's report

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

Version: 1 Date: 14 April 2006

Reviewer: edouard cheneau

Reviewer's report:

General

Results do not support conclusions "stimulatory effect of LDI on SMC proliferation at day 20 days after irradiation may be the in vitro equivalent of a beginning edge effect."and "A long term stimulatory effect on cell proliferation may postpone the edge effect instead of removing it." In this model, stimulatory effect is only shown with low dose radiation (1Gy). With 10 Gy, SMC proliferation is inhibited at all time points. Authors do not demonstrate that stimulatory effect occurs lately with higher radiation dose. Later time points should be studied. The interest of this study is that it is performed on human coronary tissue. Therefore, clinically relevant time points should be analyzed. Edge effect occurs within 6-month. Early time points have been extensively studied in animal models but we don’t know if they correctly mimic human phenomenon (ref 18).

Tissue samples are not described. Histometry for plaque characteristics might have been performed. Results of radiation cannot be analyzed the same way depending atherosclerotic plaque stage.

Vascular brachytherapy is not anymore performed in the clinical field. I do consider that the “edge stenosis” problem is not anymore clinically relevant.

-----------------------------------------------------------------------------------

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

Abstract: Expression of ICAM-1 in human MC was neither inhibited.

Methods: specify tissue origin.

-----------------------------------------------------------------------------------

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

What next?: Reject because too small an advance to publish

Level of interest: An article of limited interest
Quality of written English: Needs some language corrections before being published

Statistical review: No