Reviewer’s report

Title: A Comparison of Balloon Injured Models for Endovascular Fibre based Techniques to Prevent Restenosis

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Reviewer: Dr Keith Robinson

Level of interest: A paper whose findings are important to those with closely related research interests

Advice on publication: Unable to decide on acceptance or rejection until the authors have responded to the compulsory revisions

The authors have performed a study evaluating the responses of different arteries in the rat to balloon catheter injury. This is an important study which establishes a landmark and provides data that should be useful for future investigators. However there are several critical points that need to be addressed.

Compulsory Revisions:
- There is no late lumen loss (LLL) being measured in this study. LLL refers to a change in lumen dimension from immediately after angioplasty until some later restudy time point, in an individual vessel, and is something that is measured using serial studies over time from angiography or intravascular ultrasound imaging. LLL has NOT been established here, rather there is a comparison between arteries from different animals harvested at different time points after injury, or in the absence of injury. This is a very critical point that must not be ignored.
- The rat carotid artery while a widely used animal preparation of balloon catheter-induced intimal hyperplasia is not really a 'gold standard' as a restenosis 'model'. In fact it has been widely criticized as being non-representative of the process of clinical restenosis. This however is more then likely due to abuse or misinterpretation of the results of rat carotid studies, unrealistic expectations regarding the 'model', etc. Regardless, one should not refer to the rat carotid ballooning as a "golden standard"; perhaps "widely used" would be more appropriate.
- The expression in English is "Achilles' heel" not "Achilles tendon".
- The expressions in English are "inflated" and "deflated" not "insufflated" and "desufflated".

Additionally the paper might be improved by the following:

Discretionary Revisions:
- One of the difficulties with other animal preparations of restenosis such as the pig coronary artery is the relative non-availability of antibodies and molecular probes for those species. Probes against rat on the other hand are widely available commercially, and virtually the entire rat genome has been mapped. These are advantages of a rat 'model' that might be mentioned.
Competing interests:

None declared.