Reviewer’s report

Title: Vasodilative effects of prostaglandin E1 derivate on arteries of nerve roots in chronically compressed cauda equina

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Reviewer: Setsuro Komiya

Reviewer's report:

Reduction of blood flow in vessels of the cauda equina is the main cause of neurogenic intermittent claudication typically seen in lumbar canal stenosis. Intravenous administration of prostaglandin E1 is useful in reducing the clinical symptoms of this condition and is widely used clinically. Although prostaglandin E1 acts to dilate arteries through the prostaglandin I receptors, the precise mechanism of its effects on the arteries and veins of the cauda equina has not been elucidated yet. Preparing a good canine experimental model of lumbar canal stenosis, the authors verified that prostaglandin E1 significantly increased the diameter and blood flow of arteries compared with veins, without inducing venous hemostasis. In this paper, the results presented are limited to the animal model, and the clinical usefulness of prostaglandin E1 for neurogenic intermittent claudication, numbness, and pain was not demonstrated. However, they clearly demonstrated the pharmacological efficacy of prostaglandin E1 derivate in improving the blood flow of the cauda equina arteries without inducing side effects. This finding is very useful clinically. The question posed by the authors is new and interesting, and the methods are appropriate and well described. The data are good. The discussion and conclusion are well balanced and adequately supported by the data.

I am sure that this manuscript is acceptable without revision.