



Chronic Erythropoietin Treatment Decreases Post-Infarct Myocardial Damage in Rats without Venous Thrombogenic Effect

Submitted by Emmanuel Lemoine on Tue, 12/16/2014 - 10:53

Titre	Chronic Erythropoietin Treatment Decreases Post-Infarct Myocardial Damage in Rats without Venous Thrombogenic Effect
Type de publication	Article de revue
Auteur	Prunier, Fabrice [1], Pottier, P. [2], Clairand, R. [3], Mercier, A. [4], Hajjar, Roger J [5], Planchon, B. [6], Furber, Alain [7]
Editeur	Karger
Type	Article scientifique dans une revue à comité de lecture
Année	2009
Langue	Anglais
Date	2009
Numéro	2
Pagination	129 - 134
Volume	112
Titre de la revue	Cardiology
ISSN	0008-6312

Résumé en anglais

Objectives: Whereas administration of erythropoietin (EPO) acutely after myocardial infarction (MI) reduces infarct size and chronic EPO therapy attenuates post-MI remodeling, the safety of chronic EPO therapy following MI is unknown. Therefore, we examined the thrombogenic effects of a chronic EPO therapy after MI. **Methods:** Rats underwent coronary occlusion followed by reperfusion. They were assigned to one of the following groups: EPO-A, single injection of EPO 5,000 U/kg at the time of reperfusion; EPO-C, injection of EPO 5,000 U/kg at the time of reperfusion followed by 300 U/kg/week; PBS-C, injection of vehicle only. After eight weeks of treatment they were exposed to a validated prethrombotic test based on partial stenosis of the inferior vena cava. **Results:** As compared to the rats receiving vehicle only, the rats treated with EPO exhibited a significant reduction in MI size ($28.7 \pm 2.1\%$ and 25.8 ± 1.9 vs. $39.8 \pm 3.0\%$ in EPO-A, EPO-C and PBS-C, respectively; $p < 0.05$). Whereas the hematocrit was significantly increased in EPO-C ($59.7 \pm 2.0\%$ vs. $44.7 \pm 0.9\%$ in EPO-A, $p < 0.001$), the proportion of rats in which a thrombus occurred was similar in all groups ($p = 0.52$). **Conclusion:** Chronic EPO therapy added to the single high dose of EPO injected acutely did not induce venous pro-thrombotic effect in rats.

URL de la notice	http://okina.univ-angers.fr/publications/ua6451 [8]
DOI	10.1159/000142723 [9]
Lien vers le document	http://dx.doi.org/10.1159/000142723 [9]

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