Author’s response to reviews

Title: Intrathecal injection of fluorocitric acid inhibits the activation of glial cells causing reduced mirror pain in rats

Authors:
jing cao (caojing73@126.com)
Zhihua Li (lizhihua771128@163.com)
Zhenhua Zhang (595625403@qq.com)
Xiuhua Ren (renhuazi1967@yahoo.com.cn)
Qingzan Zhao (zgz020806@163.com)
Jinping Shao (shaojp73@163.com)
ming Li (lim@zzu.edu.cn)
Jiannan Wang (wangjiannan0309@126.com)
Puchao Huang (huazh@zzu.edu.cn)
weidong zang (zwd@zzu.edu.cn)

Version: 4 Date: 19 August 2014

Author’s response to reviews:

Dear Editor,

We would like to submit the enclosed manuscript entitled " Intrathecal injection of fluorocitric acid inhibits the activation of glial cells causing reduced mirror pain in rats ",

which we wish to be considered for publication in BMC Anesthesiology.

Growing evidence has shown that unilateral nerve injury results in pain hypersensitivity in the ipsilateral and contralateral sides respective to the injury site. This phenomenon is known as mirror image pain (MIP). Glial cells have been indicated in the mechanism of MIP; however, it is not clear how glial cells are involved in MIP. In the present study, unilateral L5 spinal nerve ligation (SNL) induced bilateral pain hypersensitivity, which indicates the presence of mirror image pain. Immunocytochemistry and western-blotting revealed an SNL induced increase in the expression of GFAP and Nav1.7 in bilateral dorsal root ganglion of rats. Intrathecal injection of fluorocitrate, a glial inhibitor, not only relieved bilateral pain hypersensitivity but also reversed the SNL induced increase in GFAP and Nav1.7 expression in DRG. These results indicate a new mechanism in which glial cell activation contributes to MIP through regulation of Nav1.7 expression.

Finally, this paper is our original unpublished work and it has not been submitted to any other journal for reviews.

Sincerely yours,

Jing