

## OPEN PEER REVIEW REPORT 1

**Name of journal:** Neural Regeneration Research

**Manuscript NO:** NRR-D-20-00076

**Title:** Altered Physiology of Gastrointestinal Vagal Afferents following Neurotrauma

**Reviewer's Name:** David Benn Lovejoy

**Reviewer's country:** Australia

**Date sent for review:** 2020-02-21

### COMMENTS TO AUTHORS

The authors have produced a first-class review in the important area of GI disturbance following TBI or SCI, focusing on the neuroplasticity of the vagal afferents. The authors include useful discussion of GI vagal afferent physiology and how this becomes modulated in neurotrauma, including discussion of the role played by the GI microbiome. This review is timely, comprehensive and should encourage developments in an important area of human health.

(Congratulations authors on a extremely well prepared and interesting paper - as a reviewer, it is refreshing to receive such a polished and flawless submission. I had to work hard to find even a typo (page 2 line 48, McKee ref is uppercase and similarly, page 37 line 24, Zhuo ref). The only suggestion I'd make is that inclusion of a figure depicting aspects of GI vagal afferent physiology described in the paper would increase visual appeal - but I do not think this is essential)

## OPEN PEER REVIEW REPORT 2

**Name of journal:** Neural Regeneration Research

**Manuscript NO:** NRR-D-20-00076

**Title:** Altered Physiology of Gastrointestinal Vagal Afferents following Neurotrauma

**Reviewer's Name:** Shaojun Liu

**Reviewer's country:** China

**Date sent for review:** 2020-02-21

### COMMENTS TO AUTHORS

The paper titled: Altered physiology of gastrointestinal vagal afferents following neurotrauma, have been reviewed.

This article comprehensively reviewed the influence of neurotropical nutrition caused by neural injury on electrophysiological changes of gastrointestinal vagal afferents. The content consists normal anatomy and physiology of the vagus nerve, the altered physiology of GI vagal afferents following neurotrauma of traumatic brain and spinal cord injury, and GI microbiome including dysbiosis following traumatic brain injury and spinal cord injury. This will greatly help readers to understand the research progress in this field, so there will be more readers. At last, the author raises a question: the exact mechanisms for GI dysfunctions following TBI remain unclear. This will remind readers of their interest in exploration. Reviewers believe it can be accepted and published in Neural Regeneration Research.

The reviewers believe that when the review of the effects of traumatic brain and spinal cord injury on vagal afferents, it will deepen the readers' understanding if it is clear whether different parts of brain and spinal cord injury can lead to different changes in gastrointestinal function.

It is suggested that the research of the effects of traumatic brain and spinal cord injury on visceral function should reference the effects of brain injury on other non-neural components. As we know that there is no innervation in bone parenchyma of long bone, except periosteum. However, in clinical, the speed of fracture healing with brain injury is much faster than that of simple fracture. It is possible this influence via brain-blood-Osteoblasts.