

April 1, 2014

Dear Editor,

Please find enclosed the edited manuscript in Word format (file name: 8130-edited.doc).

**Title:** Intracerebroventricular opiate infusion for refractory head and facial pain

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Jan Paul Muizelaar, James Earl Boggan, Kiarash Shahlaie

**Name of Journal:** *World Journal of Clinical Cases*

**ESPS Manuscript NO:** 8130

The manuscript has been improved according to the suggestions of reviewers:

1. Format has been updated

2. Running title: Intracerebroventricular pumps for headaches/ facial pain

3. Author contributions

Darrin J. Lee: (1) substantial contributions to concept/ design, acquisition of data, analysis of data, (2) drafting/ revising article, (3) approval of final version

Gene G. Gurkoff: (1) substantial contributions to design, analysis of data, (2) drafting/ revising article, (3) approval of final version

Amir Goodarzi: (1) substantial contributions to analysis of data, (2) drafting/ revising article, (3) approval of final version

J. Paul Muizelaar: (1) substantial contributions to concept/ design, acquisition of data, (2) drafting/ revising article, (3) approval of final version

James E. Boggan: (1) substantial contributions to concept/ design, acquisition of data, (2) drafting/ revising article, (3) approval of final version

Kiarash Shahlaie: (1) substantial contributions to concept/ design, acquisition of data, analysis of data, (2) drafting/ revising article, (3) approval of final version

4. Core tip:

Chronic head and face pain remains a debilitating condition, and patients may often be refractory to traditional medical therapies or surgical intervention (i.e. stereotactic radiosurgery or microvascular decompression). Alternatively, the use of intracerebroventricular (ICV) pain pumps has been used for refractory nociceptive pain from head and neck cancer; however, its use in non-cancer head and face pain has not been well described. Here, we report the potential risks and benefits of ICV opiate pain pumps for cluster headaches and trigeminal neuralgia refractory to medical and surgical treatment.

5. Table titles have been updated and format has been changed.

6. References and typesetting were corrected

Thank you again for publishing our manuscript in the *World Journal of Clinical Cases*.

Sincerely yours,