

Reply to the Editor.

Dear Respected Editor/Reviewer

Good day

Thank you very much for the comprehensive review and for the precious time that you spent reviewing this study. We did the advised changes and answered the queries. All the changes were marked in red color for easy tracking by the reviewer. The manuscript looks much better with these changes. We tried to improve the language as we can. Thank you again for your precious assistance.

Here we are replying point by point:

The reviewer comments:

Reviewer 1:

The author's article is very meaningful. Besides being a fundamental respiratory sign, cough is also a crucial neurological sign for various neurological disorders. And the article sheds some light on the cough reflex and when its sensitivity is exaggerated or depressed and related to various neurological disorders. But some points are to be mentioned in the paper to improve the quality.

Point 1: The cough reflex is regulated with brain stem level, but also the brain center plays an essential role in the regulation of cough reflex. Cough reflex sensitivity could be increased or decreased in neurological disorders. So, cough is also a crucial neurological sign. The mechanism responsible for the cough reflex should be briefly described in the Abstract section.

Our reply: We added it to the abstract and marked it in red.

Point2: "In this article, we reviewed the testing of the cough reflex and various neurological disorders that increase or decrease cough sensitivity."

It appears that the testing of the cough reflex was not a focus.

Our reply: We corrected the sentence and marked it in red

Point 3: "There are three main types of coughs according to the central control mechanisms: reflex cough (type I), voluntary cough (type II), and evoked cough (type III), which follows the urge to cough. "

What type is the cough due to neurological disorders?

Our reply: In most neurological disorders, the change was in the reflex cough.

However, in some psychological disorders, the cough may be voluntary or urge to cough as previously described in the manuscript.

Point4: “Vagal neuropathy: A superior laryngeal nerve block is another method to help relieve chronic cough due to hypersensitive cough reflex [25]. “

The superior laryngeal nerve block should be briefly described.

Our reply: a brief description was added and marked in red

Point5: It is worth exploring whether all neurological disorders in your manuscript are associated with increased cough reflex sensitivity or diminished cough reflex sensitivity.

Our reply: As described in the manuscript, we divided the neurological diseases into two categories associated with either increasing or diminishing cough reflex which was also summarized in Tables 1 and 2.

Point6: What does the author want to emphasize in the part “III How can cough help to diagnose Neurologic disorders”? Is it the testing of the cough reflex? In addition, what do the positives of Arnold’s nerve ear-cough reflex and Cough-anal reflex represent?

Our reply: In this section, we selected some items that could present with a chronic cough to help diagnose neurologic diseases. For example, a positive Arnold nerve reflex could indicate the presence of a neuropathic condition and the physician should search for other signs of neuropathies. Another example is the cough anal reflex which helps to differentiate between transection of the spinal cord and cauda equina lesions. All these plus other examples were already elaborated in the manuscript. So, we aimed not only to test the cough reflex but to attract the attention of the physician that he/she should investigate for other neurological abnormalities when an abnormal cough or cough reflex test was present.

Point7: How does this article inform clinical practice?

Our reply: as mentioned before we need to attract the attention of the physician that he/she should investigate for other neurological abnormalities when an abnormal cough or cough reflex test was present. We also added a figure about the management of chronic cough.

Reviewer 2:

The manuscript expounds on the clinical significance of cough as a neurological sign, which has good guiding value. However, the content is too verbose, and a little simplification may make readers more interested.

Our reply: Thank you very much, we tried to improve the article and to cut off the unnecessary items, but we added some new information according to the request of the other reviewers.

Reviewer 3:

The anatomical introduction of cough reflex can be shown using a figure.

Our reply: We added figure 1 showed the anatomical cough reflex

This manuscript can be considered as a review, but not the editorial.

Our reply: We change the manuscript to a Review article.

How many patients (of each mentioned disease) will suffer from neuropathic cough?

Our reply: We added the prevalence that we could find as the exact prevalence of somatic cough syndrome is not well known due to scarcity and discrepancies in studies.

Different mechanisms of each disease-causing cough should be discussed. This can be summarized in a table.

Our reply: We added the different mechanisms in table 1

Apart from cough, how about other symptoms, such as sore throat, rhinitis, or feeling of the stuffy nose during the disease course?

Our reply: We added a section about other respiratory symptoms that could have neurological pathology.

Impaired cough reflex can also be noted in patients with Neuromyelitis Optica spectrum disorders.

Our reply: We added a section about Neuromyelitis Optica spectrum

How about the treatment (transcutaneous electrical nerve stimulation)?

Our reply: We added a section about the treatment.

LANGUAGE POLISHING:

Native English-speaker did language polishing

ABBREVIATIONS

The basic rules on abbreviations were strictly followed

EDITORIAL OFFICE'S COMMENTS:

All the editorial instructions were followed in finalizing this manuscript.

On behalf of all authors, we thank editors and reviewers for their support during the publication of this manuscript.

Many thanks

Professor Mohammed Al-Biltagi