

Peer Review File

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Reviewer A

Using 182 patients, the authors investigated the influence of COVID-19 vaccination on lymph node surgery in patients with thyroid cancer. Main results is that within 14 days after COVID-19 vaccination there can be a possible increase of lymph node size, which can results into unnecessary investigations if an ultrasound is performed during this period.

After reading the manuscript several important issues remain:

1. General comment

A) Both in the abstract and conclusion it is mentioned that COVID-19 vaccination does not lead to lymph node metastases. I'm not sure that the current study can answers this question.

Reply 1A): Thank you for your comment, you are right, it is our misrepresentation. It should be described as: COVID-19 vaccination may cause enlargement of lymph nodes in the neck, but no alterations in the number of lymph node metastases have been found at this time.

Changes in the text: we have modified our text as advised (see Page 3, line 49-51 and Page 12, line 250-251)".

B) Can the advice of refraining from ultrasound investigations within 14 days after COVID-19 vaccination be extrapolated to other vaccinations and/or infectious diseases? Please add this 'bigger picture' to the Discussion-section.

Reply 1B): Thanks for reminding me. We searched the PubMed website with the keywords of "vaccination," "lymph node" and "14 day," and a total of 119 articles were found, most of which were basic research articles, and no articles similar to this study were found.

2. Regarding the Abstract

A) Line 44 'Cervical lymph nodes do not metastasize as a result of COVID-19 vaccination'; I don't think this is possible to state using the current study method, and I would advise to remove this from the conclusion-section.

Reply 2A): Thank you for your suggestion. We have been aware of this problem and have modified it in the text.

B) Line 46 'expanded surgery'; I don't this is the correct term; one could think of 'more extensive surgery'

Reply 2B): Thank you for your suggestion. We have modified it in the text.

3. Regarding the Introduction

A) Line 52 and 62 '2022'; as we are already more than one year later; please update these numbers.

Reply 3A): Thank you for your suggestion. We have modified it in the text.

B) Line 74 ‘McIntosh et al recommended PET/CT evaluation at least 2 weeks after vaccination’; As this is a bit unclear, you may want to change this into that PET/CT evaluation should be postponed to at least 2 weeks after vaccination.

Reply 3B): Thank you for your advice.

4. Regarding the Results

A) Line 183 – 185; this is already in the methods section, and therefore is not needed here also.

Reply 4A): Thank you for your advice. We have modified it in the text.

B) Line 188 – 190; it seems there are only two groups, but 3 percentages are mentioned; is this correct?

Reply 4B): It is our formulation that is not clear, and we have corrected it in the text.

5. Regarding the Discussion

A) Line 225 – 239; this is just repeating the Introduction-section, which is not needed in my opinion.

Reply 5A): Thank you for your advice. We have modified it in the text.

B) Line 260 ‘review period’; do you mean ‘follow-up’ ?

Reply 5B): Thank you for your advice. We have modified it in the text.

Reviewer B

There are some spelling (e.g. several times COIVID-19) and grammar errors issues with the english tenses. Please check by an native speaker.

Reply: Your serious attitude is worth learning from.

I recommend to point out, which impact your results might have. The pandemic situation is finished, COVID no longer a problem. Are there lessons learned for the future? As your data are 2 years old now, many of our readers might think that everything is told about this disease. You should streamline the article.

Reply: You are right that the paper was submitted after the pandemic was over, which is a drawback of our study. However, we believe that although the pandemic is over, sporadic outbreaks will still occur, and the research results are of reference value for these cases.

Reviewer C

Your research is an interesting topic about covid vaccines and cervical LNs in thyroid cancer patients.

However, it seems that the following contents should be included in this study.

First, the following information is additionally needed to confirm the effect of vaccine-induced lymphadenopathy on the extent of lymph node surgery in thyroid cancer patients. Please check the attached word file and add the contents.

Reply: Thank you for your advice. We have modified it in the text.

Second, if all patients had LNE before surgery, how many of them had reactive or suspicious LN in each group? (Additional content is required in table3.)

Reply: Thank you for reminding us that we only recorded the number of patients with lymph node metastasis. By consulting the experimental records, we add relevant content in Table 3.

Third, did the lymph nodes enlargement (LNE) by covid vaccine affect preoperative decision making?

Reply: If cervical lymph nodes are enlarged by preoperative ultrasound, they need to be removed during surgery.

Fourth, was there a case where a patient who received the covid vaccine had LNE before surgery and had neck dissection but not metastasis?

Reply: Yes, there is such a situation, which we mentioned in the text.

Please review the references in addition to the introduction to the incidence of cervical lymphadenopathy after Covid vaccination.

Reply: We reviewed a large body of literature and, if accurate, there was no literature reporting the incidence of cervical lymph node enlargement after vaccination.

In the results, how many reactive LNs and suspicious LNs were there in each group in US or CT before surgery?

Reply: By consulting the experimental records, we add relevant content in Table 3.

Please write 'p' in italics.

Reply: Thanks for your comments. We have modified it in the text.