

### Reviewer comments

We gratefully thank the editor and all reviewers for their time spend making their constructive remarks and useful suggestions, which has significantly raised the quality of the manuscript and enable us to improve the manuscript. Each suggested revision and comment, brought forward by the reviewers was accurately incorporated and considered. Below the comments of the reviewers are response point by point and the revisions are indicated. And changes in the manuscript have been marked in red.

**Comment 1:** Was the protocol for the meta-analysis published or available online?

**Reply 1:** Thank you for your comment. We did not register study protocol for this meta-analysis. This study was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA2020) guidelines.

**Comment 2 - 4:** In the introduction, the authors may want to include the use of immunotherapy as one of the new therapies (advances) in lung cancer treatment. It is important to clearly state in the article that although s.albumin is a known nutritional factor in healthy populations, it is strongly correlated to inflammation which is common in patients with lung cancer. Therefore, in patients with lung cancer s.albumin more likely reflect inflammation than reduced food intake.

Lines 238-242: Again in the discussion, I recommend to put focus of s.albumin as an inflammation marker, more than it is a nutritional marker in patients with cancer! The particular text in these lines are not relevant for the article, as the article is about survival – not postoperative complications.

Conclusion: I disagree in terms of the findings of the meta-analysis as being a rationale for providing nutritional therapy for patients with lung cancer. As previously stated, s.albumin is not a good indicator for nutritional status in patients with inflammation-conditioned cancer illness, but rather an indicator for inflammation. Patients with lung cancer frequently experience weight loss and weigh loss is highly associated with shorter survival – but that is not the aim or focus of this article.

**Reply 2 - 4:** Thank you for your rigorous consideration. The contents of these comments are similar, and we are here to unified reply. As we wrote in the article, inflammation and nutritional status has been proven a key role in the carcinogenesis, progression, and metastasis of cancer. As indicated by Suzuki et al., preoperative nutritional status is considered to affect the short-term and long-term outcomes of cancer patients. The bulk of the biological mechanism we illustrated were focused on nutritional status, which diluted the discussion on inflammatory status. In the revised manuscript, we cut down some of the lengthy descriptions of nutrition. More discussion on serum albumin and inflammation and more detailed description on the relationship between them and cancer progression are added (see Page 4, line71 - 72; Page 14, line 303 - 307). Thank again for your valuable comment, which have enabled us to improve

our work.

**Changes in the text:** Page 4, line 71 - 72; Page 14, line 303 - 307

**Comment 5:** Line 107-108: “Only the newest, largest, or most informative article were included if there were multiple articles based on similar populations.” What does this mean? If there were multiple articles from the same study?

**Reply 5:** Thanks for your comment. When multiple articles pertained to overlapping populations of patients, only the newest, largest, or most informative single article was selected. In fact, no multiple articles based on the same population were retrieved in our study. We corrected the grammatical error (see Page 6, line 117). Thank again for your valuable comment.

**Changes in the text:** Page 6, line 117

**Comment 6:** Line 116-117: “Characteristics (first author, publication year, country, number of patients, pathology, etc.) were extracted from included studies for meta-analysis.” Please rewrite. I would rather the authors differentiated between which variables were extracted into results table and which variables were extracted to be included in the meta-analysis (HR, confidence intervals etc.).

**Reply 6:** We gratefully appreciate for your suggestion. More detailed description has been added in the revised manuscript (see Page 6 - 7, line 126 - 132). Thank you so much for your sound advice.

**Changes in the text:** Page 6 - 7, line 126 - 132

**Comment 7 - 8:** Line 293-294: “We only included the studies in English, and several studies meeting the including criteria were excluded.” Please specify if these studies were excluded due to non-english language or whether exclusion were due to other reasons.

Limitations: could you state the number of articles excluded due to non-english?

**Reply 7 - 8:** We appreciate for your valuable comment. Our intention was to express the lack of studies that can be included in the article. As a matter of fact, all the researches on CONUT were mainly from Japan and Korea. Only eight of these articles are about lung cancer. There was one non-English article initially identified from databases, but it was also excluded because it was not related to CONUT. We feel sorry for our carelessness and the error descriptions has been corrected in the revised manuscript (see Page 15, line 318).

**Changes in the text:** Page 15, line 318

**Comment 9:** Lines 284-290 should be moved to the start of the discussion as it summarizes the aim, the problem and the findings.

**Reply 9:** We gratefully appreciate for your sound advice. This paragraph has been moved to the beginning of the discussion (see Page 12 - 13, line 251 - 271). Thank again for your rigorous consideration.

**Changes in the text:** Page 12 - 13, line 251 - 271

**Comment 10:** Please discuss your findings in relation to similar reviews/meta-analysis of CONUT on other cancer populations? These discussions are more interesting than the discussing the differences between the individual studies included in the meta-analysis. The lack of significant findings of individual studies is the key rationale and the start of conducting meta-analysis in the first place. For information can be read the background for Cochrane initiation.

**Reply 10:** Thank you for your comment. It is important to discuss CONUT on other solid cancer patients and compare it with our results. A supplementary discussion on it has been added in the revised manuscript (see Page 12 - 13, line 255 - 266). We gratefully thanks for the precious time the reviewer spent making constructive remarks.

**Changes in the text:** Page 12 - 13, line 255 - 266