Author's response to reviews

Title: The Role of PET/CT for the Detection of Gastric Cancer Recurrence

Authors:

Sung Hoon Sim (boron@hanmail.net)
Yu Jung Kim (cong1005@medimail.co.kr)
Do-Youn Oh (ohdoyoun@snu.ac.kr)
Se-Hoon Lee (shlee119@snu.ac.kr)
Dong-Wan Kim (dwkimmd@chol.com)
Won Jun Kang (mdkwj@snu.ac.kr)
Seock-Ah Im (moisa@snu.ac.kr)
Tae-You Kim (kimty@snu.ac.kr)
Dae Seog Heo (heo1013@plaza.snu.ac.kr)
Yung-Jue Bang (bangyj@plaza.snu.ac.kr)

Version: 3 Date: 12 January 2009

Author's response to reviews: see over
January 13, 2009
Editor-in-Chief
BMC cancer

Dear, Editor-in-Chief

We thank the editors and reviewers of the *BMC cancer* for taking their time to review our submitted article entitled “The Role of PET/CT in Detection of Gastric Cancer Recurrence”. We have made some corrections and clarifications in the manuscript. Here I summarized the changes to the paper below, as well as our responses to specific comments.

We hope the revised manuscript will better meet the requirements of the *BMC cancer* for publication.

Sincerely yours,

Do-Youn Oh, M.D.,Ph D.
Assistant Professor
Department of Internal Medicine
Seoul National University Hospital
Seoul National University College of Medicine
28 Yongondong Chongno-gu
Seoul,110-744, Korea
Tel:82-2-2072-0701
Fax; 82-2-762-9662
E-mail: ohdoyoun@snu.ac.kr
Comments: 1.
   1. I have still the problem as clinician, why the results of the combined PET/CT are far worse than those of the contrast CT. The explanation of the authors do not clarify this problem.
   2. If a diagnostic CT in combination with a FDG-PET is performed at least the information of a contract CT should be reached. Otherwise there must be a methodological problem or a quality problem of the CT scan used in combination with the PET. Please clarifiy and explain this in the paper before publication.

Reply and Revision:

   1. The results of PET/CT are not statistically significantly ‘far worse’ than those of contrast CT, even though the sensitivity of PET/CT showed inferior tendency compared to that of contrast CT. According to the results of our study, PET/CT alone was as sensitive as contrast CT in the detection of gastric cancer recurrence except peritoneal carcinomatosis. This may be attributed to either different CT validation methods or low metabolic activity of recurred gastric cancer as I mentioned in the Discussion section. In the aspect of the confirmation of recurrence, additional PET/CT on contrast CT showed superior tendency, but the difference was not statistically significant. This may be because either additional PET/CT has little benefit on the prediction of gastric cancer recurrence or the study population was too small to reveal substantial benefits, as I already mentioned in the Discussion section. Whatever the reason may be, considering its high cost and small benefits, what we want to emphasize is little usefulness of additional PET/CT on contrast CT in the detection of gastric cancer recurrence.

   2. Diagnostic contrast CT and non-contrast CT used in PET/CT are different in imaging protocol and their purpose of imaging. The diagnostic contrast CT is obtained at 120kVP and 120mA with 5mm thickness and 90ml contrast media. The CT images used in PET/CT are obtained at 50 mA and 120 kVp without contrast enhancement. The imaging purpose is also different from each other. The diagnostic contrast CT is used for the diagnosis of structural abnormality. On the other hand, the non-contrast CT used in PET/CT is used for the supplementation of structural information on PET imaging data. The interpretation of PET/CT is based on both metabolic status of the lesion and its anatomical location on non-contrast CT. Therefore the diagnostic contrast CT and PET/CT do not exactly show the same result.
To clarify the method of image, we revised the manuscript:

Regardless of PET/CT, the diagnostic contrast CT scan was performed with 120kVP, 120mA, 5mm thickness and 90ml contrast media, which were adjusted to body weight. (*Method PET/CT imaging page 6 line 5–6*)

The other explanation would be due to the low metabolic activity of recurred gastric cancer. The interpretation of PET/CT is based on both metabolic status of the lesion and its anatomical location on non-contrast CT. (*Discussion page 10 line 16-17*)

Comment 2.
The other point is the definition of recurrences. Local recurrences include: 1. endoluminal local recurrence 2. extraluminal local recurrence and 3. Locoregional lymph node metastases 2. Distant metastases and most others feel that PC should be analyses separately in gastric cancer. Especially in the postoperative follow up the PC remains a diagnostic challenge and can be diagnosed rather late. Please clarify in the manuscript.

Reply and Revision:
The definition of locoregional recurrence used in this research includes exo- and endoluminal recurrence. Other types of recurrence were considered distant metastasis. The previous study (by Park MJ et al. and Yoshioka H et al.) had used similar categorization in the similar setting.


We agree that the diagnosis of peritoneal carcinomatosis remains a challenge. Considering this, we think that the site-specific values presented in this paper can be more practical.

We revised the manuscript following your comments in Material and Method and Data analysis and Statistical methods:

: Exo- and endo- luminal recurrences were categorized as locoregional recurrences and the others were categorized as distant metastases.