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### The Author's Response:

# Objective Assessment of Surgical Restaging after Concurrent Chemoradiation for Locally Advanced Pancreatic Cancer

#### Woo Hyun Paik<sup>1</sup> and Yong-Tae Kim<sup>2</sup>

<sup>1</sup>Department of Internal Medicine, Inje University Ilsan Paik Hospital, Goyang, Korea; <sup>2</sup>Department of Internal Medicine and Liver Research Institute, Seoul National University College of Medicine, Seoul, Korea

#### **Response:**

Dr. Karabicak raised issue that the enrolled patients in our study may not be the truly locally advanced pancreatic cancer (LAPC) (1), and staging laparoscopy is strictly recommended to define LAPC and to exclude minute metastasis. Preoperative diagnostic accuracy to define resectability of pancreatic cancer is important, however, preoperative determination of resectability of pancreatic cancer is still challenging. We totally agree with Dr. Karabicak's opinion that current axial imaging is limited to diagnose minute metastatic lesions (2). It is not sufficient to assess the true response of neoadjuvant therapy, either (3). However, we do not agree with the opinion that staging laparoscopy is strictly recommended to define minute metastasis in locally advanced pancreatic cancer. More than three-quarters of patients experience tumor recurrence even after radical resection of pancreatic cancer (4), and adjuvant chemotherapy has shown survival benefit in pancreatic cancer (5). Based on these findings, we expect that there would be a high probability of micrometastasis even in resectable pancreatic cancer (6). Therefore, we think that staging laparoscopy to identify small metastatic lesions is not essential in pancreatic cancer. NCCN guideline also recommends laparoscopy as optional not mandatory describing that diagnostic staging laparoscopy to rule out metastasis not visible at standard imaging is routinely used in some institutions prior to surgery or chemoradiation. Also, locoregional therapy has limited value in pancreatic cancer, and we conducted systemic chemotherapy with 5-FU, gemcitabine, or capecitabine along with 50.4 Gy of radiotherapy assuming that there would be a high probability of micrometastasis in LAPC. The benefits of neoadjuvant treatment in pancreatic cancer are

as follows; 1) avoid unnecessary operation in the patient with a very aggressive tumor that would not benefit from a resection despite the absence of systemic spread at the time of diagnosis, 2) improvement of R0 resection rates and prevention of local recurrence (4,7). With the introduction of highly effective chemotherapy regimens such as FOLFIRINOX, the neoadjuvant therapy protocol would be changed (3,4,8,9). In conclusion, we agree with Dr. Karabicak's opinion that there would be a chance of including patients with minute metastasis that means stage IV initially in our study. However, we do not think that staging laparoscopy is essential to identify metastatic lesions in LAPC. In addition, the efficacy of intraperitoneal chemotherapy for pancreatic cancer patients with peritoneal metastasis has not been proved and still under investigation (10). The intraperitoneal chemotherapy would require more clinical evidence.

## ORCID

Woo Hyun Paik http://orcid.org/0000-0001-8708-3280 Yong-Tae Kim http://orcid.org/0000-0002-4842-6874

## REFERENCES

- 1. Paik WH, Lee SH, Kim YT, Park JM, Song BJ, Ryu JK. Objective assessment of surgical restaging after concurrent chemoradiation for locally advanced pancreatic cancer. *J Korean Med Sci* 2015; 30: 917-23.
- Loehrer AP, Ferrone CR. Treatment of locally advanced pancreatic ductal adenocarcinoma. *Dig Surg* 2016; 33: 343-50.
- 3. Blazer M, Wu C, Goldberg RM, Phillips G, Schmidt C, Muscarella P, Wuthrick E, Williams TM, Reardon J, Ellison EC, et al. Neoadjuvant modified (m) FOLFIRINOX for locally advanced unresectable (LAPC) and borderline resectable (BRPC) adenocarcinoma of the pancreas. *Ann Surg Oncol* 2015; 22: 1153-9.
- Hackert T, Ulrich A, Büchler MW. Borderline resectable pancreatic cancer. *Cancer Lett* 2016; 375: 231-7.
- 5. Khorana AA, Mangu PB, Berlin J, Engebretson A, Hong TS, Maitra A, Mohile SG, Mumber M, Schulick R, Shapiro M, et al. Potentially curable pancreatic cancer: American Society of Clinical Oncology Clinical Practice Guideline. *J Clin Oncol* Forthcoming 2016.
- 6. Park DI, Lee JK, Kim JE, Hyun JG, Shim SG, Lee KT, Palk SW, Rhee JC, Choi KW, Lim JH, et al. The analysis of resectability and survival in pancreatic cancer patients with vascular invasion. *J Clin Gastroenterol* 2001; 32: 231-4.
- Morganti AG, Massaccesi M, La Torre G, Caravatta L, Piscopo A, Tambaro R, Sofo L, Sallustio G, Ingrosso M, Macchia G, et al. A systematic review of resectability and survival after concurrent chemoradiation in primarily unresectable pancreatic cancer. *Ann Surg Oncol* 2010; 17: 194-205.
- 8. Nanda RH, El-Rayes B, Maithel SK, Landry J. Neoadjuvant modified FOL-FIRINOX and chemoradiation therapy for locally advanced pancreatic cancer improves resectability. *J Surg Oncol* 2015; 111: 1028-34.

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- 9. Christians KK, Tsai S, Mahmoud A, Ritch P, Thomas JP, Wiebe L, Kelly T, Erickson B, Wang H, Evans DB, et al. Neoadjuvant FOLFIRINOX for borderline resectable pancreas cancer: a new treatment paradigm? *Oncologist* 2014; 19: 266-74.
- 10. Satoi S, Fujii T, Yanagimoto H, Motoi F, Kurata M, Takahara N, Yamada S, Yamamoto T, Mizuma M, Honda G, et al. Multicenter phase II study of intravenous and intraperitoneal paclitaxel with S-1 for pancreatic ductal

adenocarcinoma patients with peritoneal metastasis. Ann Surg Forthcoming 2016.

#### Yong-Tae Kim, MD

Department of Internal Medicine and Liver Research Institute, Seoul National University College of Medicine, 101 Daehak-ro, Jongno-gu, Seoul 03080, Korea E-mail: yongtkim@snu.ac.kr