

## AB105. P079. Impact of extravasated platelet activation surrounding cancer associated fibroblasts by neoadjuvant chemotherapy in pancreatic ductal adenocarcinoma

Tomoharu Miyashita<sup>1</sup>, Hidehiro Tajima<sup>1</sup>, Mitsuyoshi Okazaki<sup>1</sup>, Yoshinao Ohbatake<sup>1</sup>, Shinichi Nakanuma<sup>1</sup>, Isamu Makino<sup>1</sup>, Hiroyuki Takamura<sup>1</sup>, John W. Harmon<sup>2</sup>, Tetsuo Ohta<sup>1</sup>

<sup>1</sup>Department of Surgery, The Sol Goldman Pancreatic Cancer Research Center, The Johns Hopkins University School of Medicine, Baltimore, Maryland, USA; <sup>2</sup>Department of Surgery, UMC Utrecht Cancer Center, University Medical Center Utrecht, Utrecht, The Netherlands

**Background:** Extravasated platelet activation (EPA) associated with cancer-associated fibroblasts (CAFs) as well as pancreatic cancer cells were detected in our previous study. C-type lectin receptor (CLEC-2) has been identified as an endogenous receptor of podoplanin (PDPN) on platelets. The expression of PDPN by stromal CAFs has been reported to be a prognostic indicator in various types of cancer. We investigated the effect of neoadjuvant therapy on EPA and PDPN-expression by CAFs using immunohistochemical analysis.

**Methods:** A total of 56 patients were enrolled in this study. We evaluated the expression of platelet-specific

marker (CD42b) and CAF marker (PDPN) using immunohistochemistry. Cases in which >10% of CD42b positive-CAFs were stained were defined as positive. Density of PDPN positive fibroblasts was determined by hybrid cell counting. This was compared to a group of untreated specimens, a group treated with conventional gemcitabine (GEM) alone, a group of GEM plus S-1 (GS) and a group of GEM plus Nab-paclitaxel (GnP).

**Results:** By immunohistochemistry CD42b expression was observed in 30 out of 56 (54%) patients surrounding CAFs. The expression of CD42b was observed in 10% of the GnP group. However, CD42b expression was detected in 64%, 63% and 63% in untreated, GEM alone and GS groups. There were significantly fewer CD42b expressions in the GnP than in the untreated, GEM alone and GS groups. PDPN expression was reduced in the GnP group, as revealed by markedly disorganized collagen and a low density of PDPN -positive fibroblasts. There were significantly fewer PDPN -positive fibroblasts in the GnP than in the untreated, GEM alone and GS groups, but there was no significant difference between the latter 3 groups.

**Conclusions:** This data suggests that the GnP regimen decreases EPA in the stroma through PDPN-positive CAF depletion.

doi: 10.21037/apc.2018.AB105

**Cite this abstract as:** Miyashita T, Tajima H, Okazaki M, Ohbatake Y, Nakanuma S, Makino I, Takamura H, Harmon JW, Ohta T. Impact of extravasated platelet activation surrounding cancer associated fibroblasts by neoadjuvant chemotherapy in pancreatic ductal adenocarcinoma. *Ann Pancreat Cancer* 2018;1:AB105. doi: 10.21037/apc.2018.AB105