



## Team Progress Updates

### SU2C-Lustgarten Foundation For Pancreatic Research Interception Research Team:

#### “Developing Novel Approaches to Treat and Evaluate Early Pancreatic Cancer”



The SU2C–Lustgarten Foundation Pancreatic Cancer Interception Research Team aims to intercept pancreatic ductal adenocarcinoma through a comprehensive approach that tests intensive preoperative treatments allowing doctors to achieve successful surgery and eradicate micrometastatic disease in more patients, and through the use of organoids to identify robust biomarkers of response to therapy.

Pancreatic cancer can sometimes be cured by surgery, but this is not always successful. Outcomes can be improved by intensive preoperative therapy with FOLFIRINOX, a chemotherapy regimen that combines the drugs 5-fluorouracil, leucovorin, irinotecan hydrochloride, and oxaliplatin. Through a clinical trial, the team is evaluating the addition of losartan, a drug that may enhance the efficacy of FOLFIRINOX. Furthermore, since preliminary data suggest that losartan therapy and radiation therapy alter the immune microenvironment, the team will add immunotherapy to determine if this strategy can provide additional benefit.

The team is also using organoids—tiny colonies of living cells obtained from patients' tumors prior to starting treatment—to determine if they can be used to predict patients' response to FOLFIRINOX and other therapies.

The team has reported the following progress:

#### **January 2019**

- The team is testing the concept that the antihypertensive medication losartan in combination with FOLFIRINOX can significantly increase the chances of successful surgical resections in patients, as well as improve survival.
- Seventeen patients have been treated, with six patients having completed four cycles of therapy. All were stable at re-staging and three had a decrease in the cancer biomarker CA19-9, which may indicate improvement.
- The team intends to test new treatments on organoid spheres derived from each patient, and compare patient responses to organoid sphere response. Currently they have successfully grown organoids from five patients.





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### June 2018

- The clinical trial protocol has been approved at Massachusetts General Hospital, where three patients are enrolled. Approval is expected at four other major hospitals. A total of 160 patients will be enrolled.
- The team has identified a set of genes turned on in cell cultures obtained from five tumor samples treated with FOLFIRINOX. These gene expression patterns will be eventually compared with those observed in organoids with the goal of developing tools to identify optimal treatment plans for individual patients.

