



## **Lustgarten Funded Study Shows Loss of Fat and Muscle is a Common First Sign of Pancreatic Cancer**

Woodbury, N.Y., June 21, 2018 - In a study published in *Nature*, researchers found that the breakdown of muscle tissue and adipose (fat) is an early sign of pancreatic cancer. The Lustgarten-funded research was conducted by Dr. Laura Danai and Dr. Matthew Vander Heiden from Koch Institute for Integrative Cancer Research at Massachusetts Institute of Technology, and Dr. Ana Babic and Dr. Brian Wolpin at Dana-Farber Cancer Institute. These promising findings may contribute to earlier detection of pancreatic cancer.

Using a mouse model for pancreatic cancer, researchers identified that the loss of fat represents two significant findings: it occurs early in the development of the disease and diminished exocrine function contributes to this phenotype. Pancreatic exocrine function is responsible for breaking down proteins, lipids, carbohydrates, and nucleic acids from the diet. The findings in the mouse model showed that the failure to breakdown food contributed to tissue wasting. Researchers also noted that when mice were supplemented with pancreatic enzymes, the wasting of tissue progressed less rapidly.

Researchers then measured fat and muscle loss in people diagnosed with pancreatic cancer using a CT scan. They found that 65 percent of patients displayed a loss of skeletal muscle mass, irrespective of the stage of the disease. Whether decreased exocrine function contributes to fat and muscle wasting in patients, as it does in mice, will need to be further evaluated.

“This discovery has the potential to lead to a better understanding of what causes the deterioration of muscle and fat, and to design intervention mechanisms to increase patient comfort, mobility, and survival across all stages of the disease,” said Dr. Vander Heiden.

Dr. Vander Heiden’s previous work has examined the complicated relationship between a patient’s body, the cancer itself, and tumor development, finding that muscle breakdown releases branched chain amino acids (BCAAs) as another manifestation of early tissue wasting in this disease.

While the connection between fat and muscle loss and a pancreatic cancer diagnosis is a significant finding, researchers have noted that tissue wasting does not always play a critical role in survival. These findings also suggest that tissue wasting in patients with early-stage pancreatic cancer could be different from cachexia, which is typically seen in patients with advanced disease. More research will be needed to establish how the many possible causes of tissue wasting interact to affect patients diagnosed with pancreatic cancer.

### **About the Lustgarten Foundation**

The Lustgarten Foundation is America’s largest private funder of pancreatic cancer research. Based in Woodbury, N.Y., the Foundation supports research to find a cure for pancreatic cancer, facilitates dialogue within the medical and scientific community, and educates the public about the disease through awareness campaigns and fundraising events. Since its inception, the Lustgarten Foundation has directed \$154 million to research and assembled the best scientific minds with the hope that one day, a cure can be found. Thanks to separate funding to support administrative expenses, 100 percent of every dollar donated to the Foundation goes directly to pancreatic cancer research. For more information, please visit [www.lustgarten.org](http://www.lustgarten.org).