Pancreatic cancer development

1 September 2017, by Leigh Macmillan

Pancreatic ductal carcinoma (PDAC) is one of the most lethal types of cancer, with new therapeutic options needed.

Sergey Novitskiy, M.D., Ph.D., and colleagues investigated the immune response during the development of aggressive PDAC in an animal model of the disease. They found elevated levels of G-CSF (granulocyte-colony stimulating factor) in the pancreatic epithelium. The elevated G-CSF promoted the maturation of immune cells expressing immune-suppressive genes and decreased proliferation of tumor-killing T cells.

The researchers discovered a similar pattern in human data from the Cancer Genome Atlas and tissue microarrays.

Inhibiting G-CSF with a blocking antibody in combination with the chemotherapy drug gemcitabine reduced tumor size, decreased the number of immunosuppressive cells and increased the number of infiltrating T cells more effectively than gemcitabine alone.

The findings, reported in *Cancer Immunology Research*, suggest that anti-G-CSF treatments may increase the efficacy of conventional chemotherapeutic interventions in PDAC.

More information: Michael W. Pickup et al. Development of Aggressive Pancreatic Ductal Adenocarcinomas Depends on Granulocyte Colony Stimulating Factor Secretion in Carcinoma Cells, *Cancer Immunology Research* (2017). DOI: 10.1158/2326-6066.CIR-16-0311

Provided by Vanderbilt University