

Pancreatic cancer is one of the deadliest malignancies—early detection is difficult, and effective treatment is often not possible. Growing evidence suggests that one risk factor may be damage to the intestinal barrier, which normally protects the bloodstream from harmful substances in the gut. This barrier is strongly influenced by diet—especially the amount and ratio of omega-6 to omega-3 fatty acids. Modern, highly processed diets are rich in omega-6 and low in omega-3 fats, which may lead to the leakage of bacterial toxins (such as LPS) into the blood. These toxins can reach the pancreas, triggering inflammation that promotes cancer development.

The aim of this project is to investigate whether an improper balance of fatty acids in the diet disrupts the intestinal barrier, increases toxin levels in the bloodstream, and contributes to the development of pancreatic cancer. The study will include 60 patients undergoing surgery for pancreatic lesions. Based on pathology results, they will be divided into cancer and non-cancer groups. All participants will be assessed for diet quality, intestinal barrier integrity, and inflammation markers. The results of the study may help develop dietary recommendations, potentially reducing the risk of developing pancreatic cancer.