

MINI CASE STUDY:

Whipple Procedure (pancreatoduodenectomy)

Initial Contact

A 65-year-old woman presented at the University of Arkansas for Medical Sciences (UAMS) Emergency Department with jaundice and unexplained weight loss.

Imaging revealed she had a pancreatic lesion, and she was referred to the Oncology Clinic at the UAMS Winthrop P. Rockefeller Cancer Institute.

Assessment

At the **Oncology Clinic**, doctors determined the lesion was causing pancreatic and bile duct obstruction, preventing bile and pancreatic fluid from flowing to the intestines for digestion, while also causing jaundice.

Procedures

In an outpatient procedure, a stent was inserted into the bile and pancreatic ducts to relieve the obstruction and improve the jaundice. Meanwhile, tissue samples were taken from the obstructing lesion that revealed the patient had pancreatic cancer.

While pancreatic cancer is very aggressive and in 80% of cases is found so late that surgery is no longer an option, hers was deemed borderline resectable – not yet too advanced for surgery but already involving significant vessels in the region. This necessitated pretreatment with neoadjuvant chemotherapy, followed by pancreatic resection, including excision of vessels involved by the tumor.

Emmanouil Giorgakis, M.D., a fellowship-trained transplant surgeon, said that after the patient underwent neoadjuvant chemotherapy to shrink the tumor, additional imaging showed favorable response to the chemotherapy and no indication of distal (metastatic) disease. This made her a candidate for the Whipple procedure, also known as a pancreaticoduodenectomy -- a major, complex surgery that carries serious risks but can prolong survival on such patients.

In the surgery, which typically lasts four to 10 hours, Giorgakis removed the head of the pancreas and parts of the small bowel, stomach, gallbladder and bile duct, along with the involved vessels. He then reconnected what was left of the pancreas, reattaching the bile duct to the bowel and the bowel to the stomach, and reconstructed the vessels involved.

Follow-up

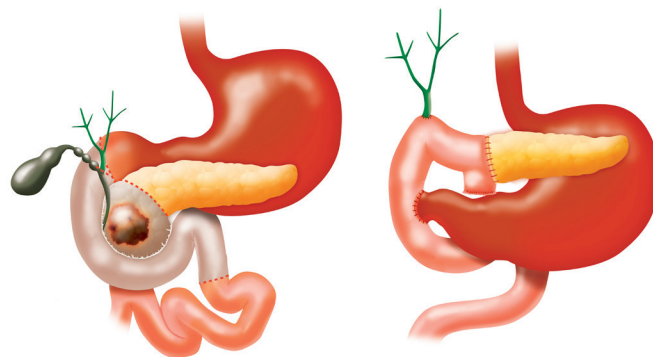
The patient remained hospitalized for 10 days and spent about six weeks recovering at home. She then followed up with **UAMS Medical Oncology** for adjuvant chemotherapy.

Discussion

Giorgakis said the Whipple procedure is most often used to remove pancreatic cancer. It is also used to treat tumors in the duodenum and distal third of the bile duct, ampullary cancer (a rare cancer that forms at the ampulla of Vater, which is the opening of the pancreatic and bile ducts to the intestine), severe pancreatic head trauma and pancreatic head neuroendocrine tumors.

The procedure was named after Allen Whipple, M.D., a surgeon who devised an improved version of the surgery in 1935 at Columbia-Presbyterian in New York. It once carried a mortality rate of 10-15%. This rate is now reduced to 1-3% if performed in high volume centers by experienced hands.

More than 50 such procedures are performed annually at the UAMS Winthrop P. Rockefeller Cancer Institute by specialized pancreatic and hepatobiliary/transplant surgeons.



Referrals

To refer a patient to Giorgakis, call **800-552-8026** or use the **EpicCare Link**.

