

# Metastatic Pancreatic Cancer: What Can Nurses Do?

Jessica MacIntyre, ARNP, NP-C, OCN®

The median survival of patients with metastatic pancreatic cancer is three to six months, making the diagnosis difficult to accept for patients, family, and healthcare providers. Therapeutic options are improving, but the treatment of advanced disease remains palliative. For oncology nurses, understanding the therapeutic and palliative options can provide these patients and their caregivers with additional information to make appropriate and individualized healthcare decisions.

The incidence of pancreatic cancer has increased markedly over the past several decades, with pancreatic cancer now being the fourth leading cause of cancer death in the United States (National Cancer Institute [NCI], 2010). More than 44,000 new cases of pancreatic cancer are expected to be diagnosed and more than 37,000 patients are estimated to die from the disease in the United States in 2011 (American Cancer Society [ACS], 2011). The median survival of patients with metastatic pancreatic cancer is three to six months (Lazenby & Saif, 2010).

The majority of pancreatic cancers are advanced at diagnosis (51% metastatic versus 8% localized disease) (Surveillance Epidemiology and End Results, 2011). Despite advances in the diagnosis and treatment of early-stage pancreatic cancer, little progress has been made in prevention, early detection, and treatment of advanced disease. The rapid clinical deterioration commonly observed in patients with pancreatic cancer has been attributed to the aggressive biologic nature of pancreatic cancer and to the lack of effective systemic therapies available for patients with metastatic disease (Hidalgo, 2010).

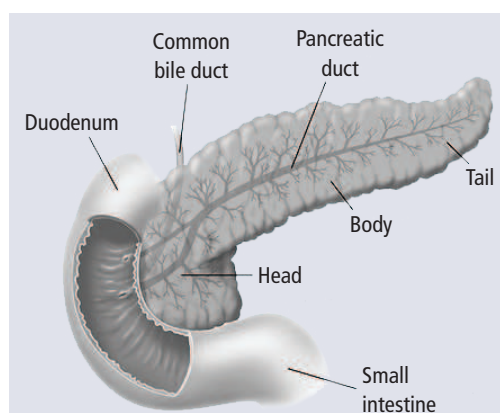
## Pathophysiology

The pancreas is located behind the stomach and is about six inches long, fewer than two inches wide, and extends horizontally across the abdomen (see Figure 1). The head of the pancreas

is on the right side of the abdomen, behind the site where the stomach meets the duodenum. The body of the pancreas is located behind the stomach and the tail is on the left side of the abdomen, next to the spleen. About 60%–70% of pancreatic cancers involve the head of the pancreas (Coleman, 2005). Twenty percent of pancreatic cancers have invaded the duodenum at diagnosis (Coleman, 2005; Freelove & Walling, 2006). The most common sites of metastatic disease from pancreatic cancer are the liver—via the lymphatic system—and peritoneum (Hidalgo, 2010; Mulcahy, Wahl, & Small, 2005).

Seventy percent of patients present with lymphatic spread; 50% have venous involvement at diagnosis (Coleman, 2005).

The pancreas contains two types of glands: exocrine and endocrine. Exocrine glands release enzymes into the small intestine that assist with digestion. More than 95% of the cells in the pancreas are exocrine glands and ducts (NCI, 2010).



**Figure 1. Pancreatic Anatomy**

Note. Image courtesy of National Cancer Institute and Don Blis.

## Etiology and Risk Factors

Pancreatic cancer results from the accumulation of acquired genetic mutations (Vogelstein & Kinzler, 2004). Unlike other malignancies, pancreatic cancer involves several genetic abnormalities. One study suggested that each pancreatic cancer cell carries an average of 63 genetic mutations (Jones et al.,

Jessica MacIntyre, ARNP, NP-C, OCN®, is a nurse practitioner in the Sylvester Comprehensive Cancer Center and the Leonard M. Miller School of Medicine at the University of Miami in Florida. The author takes full responsibility for the content of the article. The author did not receive honoraria for this work. No financial relationships relevant to the content of this article have been disclosed by the author or editorial staff.

Digital Object Identifier: 10.1188/11.CJON.424-428