

## Conquering Cancer of the Exocrine Pancreas

The incidence of pancreatic cancer has increased steadily over the past several decades, and it is now the fifth most common cause of cancer death in the United States. Using currently available diagnostic and treatment methods, cure of pancreatic cancer is rarely achieved.<sup>1</sup> Cure is possible only when the cancer is localized to the pancreas at the time of diagnosis. However, this occurs in only 20% of cases. Even with complete surgical resection of localized cancer, the 5-year survival rate is approximately 20%. The series of articles in this issue attest to the fact that despite the dismal current statistics for pancreatic cancer, progress is being made in several areas.

Mark E. Powis, MD, and Kenneth J. Chang, MD, provide an intriguing discussion of the role of endoscopic ultrasonography in improving the specificity and sensitivity of pancreatic cancer diagnosis and staging. They present convincing data on the efficacy of endoscopic ultrasound-guided fine-needle aspiration in the tissue diagnosis of pancreatic masses, and they also highlight the use of endoscopic ultrasonographic-guided celiac blocks in pancreatic cancer pain management. The influence of the improved diagnostic accuracy achieved with endoscopic ultrasonography on the cost of pancreatic cancer management is also reviewed.

The molecular alterations associated with pancreatic cancer and their prognostic significance are key components in better understanding the biology of pancreatic cancer. Domenico Coppola, MD, reviews the relationship between prognosis and DNA content, p53 tumor suppressor gene mutation, *K-ras* oncogene expression, and other molecular genetic alterations. The roles and influence of growth factor receptors, insulin-like growth factors, and transforming growth factors on tumor growth are discussed, and factors important in tumor-stromal interaction — and hence metastatic potential — are reviewed. Finally, Dr. Coppola describes information concerning a wide range of molecular changes in pancreatic cancer that concern and regulate the all-important biologic phenomenon of apoptosis.

Boris W. Kuvshinoff, MD, and Mark P. Bryer, MD, review current strategies concerning the evaluation and treatment of patients with potentially resectable and locally advanced pancreatic cancer. The importance of an accurate preoperative evaluation of disease extent is emphasized, and the “pros and cons” of newer evaluative techniques are discussed. The authors also review curative and palliative surgical therapies and their integration with chemoradiation therapy. They conclude that further

improvements in long-term outcomes for pancreatic cancer will require more effective systemic therapies.

Developments in the use of metalloproteinase inhibitors in human pancreatic cancer are reviewed by Alexander S. Rosemurgy, MD, and Francesco M. Serafini, MD. Metalloproteinase inhibitors impede tumor cell implantation, delay tumor growth, and prolong survival in the nude mouse model. The authors review recent data concerning the use of Marimastat, a selective but non-specific metalloprotease inhibitor, in humans with pancreatic cancer. Clearly, the challenge to develop better systemic therapies is being accepted.

Mucin-producing cystic neoplasms of the pancreas are often difficult to diagnose and characterize preoperatively. Although rare, these tumors have a better prognosis than ductal cell carcinomas. Mohamad A. Eloubeidi, MD, MHS, and Robert H. Hawes, MD, describe the best approaches to diagnose, classify, and treat this fascinating group of entities.

Common complications of pancreatic cancer include obstruction of the extrahepatic biliary system and the main pancreatic duct. Obstruction of the main bile duct by pancreatic cancer results in

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jaundice, and obstruction of the main pancreatic duct associated with prestenotic ductal dilation may be associated with postprandial pain. Ananya Das, MD, and Michael V. Sivak, Jr, MD, review the various endoscopic techniques used to palliate symptoms in these situations, and they provide guidance in choosing between surgical and minimally invasive approaches.

Controlling pancreatic cancer remains difficult, with most tumors having spread outside the pancreas at presentation. Thus, conquering cancer of the exocrine pancreas is a challenging task. The articles included in this issue of *Cancer Control*, however, provide insight as to why a successful outcome of this challenge is not impossible.

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## Reference

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