

## The crown jewelry of the surgeries for pancreatic cancer

*Authors' introduction:* Lei Zheng, MD, PhD, is an Associate Professor of Oncology and Surgery in the Gastrointestinal Oncology Program and the Cancer Immunology Program and also a faculty member in the Graduate Program of Cellular and Molecular medicine at the Johns Hopkins University School of Medicine. He is affiliated with the Cancer Immunology Program as a R01-funded laboratory investigator and with GI Oncology Program as a clinical oncologist. He plays a major role in the translational programs that focus on the clinical development of novel immune-based and antibody-based therapies for gastrointestinal cancers at the Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins. His clinical work is focused on multidisciplinary management for resectable and borderline resectable pancreatic cancer. He has developed a pancreatic cancer immunotherapy research program on a neoadjuvant therapy platform and also a number of preclinical models of pancreatic cancer for developing innovative immunotherapy strategies. He has also applied his knowledge gained from pancreatic cancer immune-based therapies to the development of a colorectal cancer GVAX vaccine and is one of the lead investigators on this development. His primary laboratory research focus is on the understanding of the mechanistic roles of tumor microenvironment in cancer development and metastasis and the identification of new targets for pancreatic cancer therapies by dissecting tumor microenvironment of pancreatic cancer. Since 2013, he has already published over 40 peer-reviewed papers in these areas. He mentors graduate students, postdoctoral research fellows, residents, and surgical/medical oncology fellows in his laboratory. He is a past NIH K23 grantee and is now funded as PI by two NIH R01 grants and as co-investigators by four NIH R01 grants. He is member for the NCI Grant Review Subcommittee J and has also served in the review panel for the Department of Defense Congressionally Directed Medical Research Programs. He serves as reviewers for a number of scientific journals including *Cancer Immunology Research*, *Oncoimmunology*, *Gastroenterology*, *Cancer Discovery*, *Journal of National Cancer Institute*, *Nature Medicine*, *Cancer Research*, *Journal of Experimental Medicine*, *Journal of Clinical Investigation*, *Annals of Surgical Oncology*, etc.

Taiping Zhang, MD, is from Peking Union medical college; the professor and deputy director of general surgery department at Peking Union Medical College Hospital. Currently serves as the member of the standing committee and secretary of the Surgery Branch of the Chinese Medical Association and the vice chairman of the Division of Surgical Study Group, Chinese Medical Association. He also served as the vice chairman of committee of pancreatic diseases, Chinese Medical Doctor Association. He served on the editorial board of a variety of medical journals and the Deputy Chief Editor of *Chinese Journal of Hepatobiliary Surgery* and *Chinese Journal of Pancreatology*. Authored or co-authored 130 original articles or reviews, and 20 book chapters. One focus of the research is gene therapy of malignant tumors. The other focus is early detection of pancreatic cancer, aiming to find efficient and accurate plasma biomarkers. Moreover, has a strong interest in exploration of pancreatic cancer drug resistance mechanisms.

We are very pleased to organize this issue of *Chinese Journal of Cancer Research*. Authors come from the most distinguished groups of pancreatic cancer surgeons and oncologists in China and in USA. The first two articles make overviews on the historic and contemporary progresses in surgical management of pancreatic cancer. Surgery for pancreatic cancer has been viewed as “the Crown Jewelry of the Surgeries” by many surgeons. Dr. Christopher Wolfgang and his group at the Johns Hopkins Hospital provide a historical overview on how the surgeons, from William Halsted to John Cameron, made history of modern surgery with their seminal contributions to pancreatic cancer management. Dr. Yupei Zhao and Dr. Taiping Zhang, and their group at the Peking Union Medical College Hospital depict the contemporary advancements and challenges of pancreatic surgeries. Each of the remaining articles is focused on one area of the advancements and contributed by the experts in the area. Pancreatic cancer still has a very poor outcome with a median survival of 2 years following curative surgical resection (1,2). In a case series with all stages of pancreatic cancer reviewed by Dr. Weiguo Cao and his group, the median survival is less than 1 year. One of attempts to improve the outcome is through radical surgery. Dr. Rufu Chen and

his group summarize their experience in radical nerve dissection with pancreatic cancer surgery; and Dr. Yingbin Liu and his group share their experience in total mesopancreatic resection of pancreatic cancer. Another approach to improve the outcome of pancreatectomy is through a multidisciplinary approach (3). Dr. Joseph Herman and Dr. Qichun Wei review the role of stereotactic radiotherapy in improving the local control of pancreatic cancer following surgical resection and together with chemotherapy increase the resectability of locally advanced pancreatic cancer. Recently, it has been more and more recognized that patients with oligometastases of pancreatic cancer may benefit from metastasectomy. Dr. Matthew Weiss and his group share their view on selecting patients with metastatic diseases for surgical management. However, surgeries for pancreatic cancer are still associated with 53% of perioperative morbidity, which has not changed over the time (4). Dr. Wei Gong and his group use their meta-analysis on the stent management of pancreatic fistula to remind us that one of the focuses of surgical research should still be on decreasing the incidence of complications following pancreatectomy. With a main intention to improve the quality of life of the patients who still have a limited quantity of life following the pancreatic surgery; less invasive surgical approaches have become one of the major trends for pancreatic surgery. Dr. Barish Edil and his group review the US surgeons' experience in laparoscopic pancreatectomy while Dr. Yiping Mou and his group review the Chinese surgeons' experience. Dr. Mou further elaborates his experience in laparoscopic approach of vein resection. Dr. Chenghong Peng and his group share their experience and provide their view on developing robot assisted surgery for pancreatic cancer. Therefore, we have made significant advancements in surgical techniques for pancreatic cancer management. Now we can do pancreatic surgery in a less invasive way and can do surgery on more pancreatic cancer patients who would not be considered in the past to be a candidate for surgery. However, what have caused the poor outcome of pancreatic cancer are not the limitations on the surgical techniques, but are late diagnosis and "bad" biology of pancreatic cancer (5). Dr. Yi-Xiang Wang and his group present their commentary on a Swedish study of using MRI to screen pancreatic cancer in a high risk population. Dr. Nita Ahuja and her group, as all the pancreatic surgeons and gastroenterologists who also manage premalignant cystic lesions of the pancreas have recognized, tell us their view on the importance of developing molecular tests to detect pancreatic cancer at its early stage or pre-malignancy stage. Detected radiographically at so called early stages, pancreatic cancer may have already developed systemic micrometastases (1). The majority of patients recur with systemic diseases following surgical resection. Chemotherapy, as the only systemic treatment for pancreatic cancer, has not change the long term outcome of pancreatic cancer even though there have been recognizable advancements in the combinational chemotherapy for pancreatic cancer in the last 5 years (6,7). As Dr. Yuwen Zhu and his coauthors have reviewed, many of us hope that immunotherapy, which has been shown to successfully change the long term outcome in many other malignant diseases, will become the solution to truly achieve an improvement in the long term outcome following the surgeries of pancreatic cancer.

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