

Current Surgical Concepts and Future Perspectives in the Treatment of Borderline Resectable and Potentially Resectable Locally Advanced Pancreatic Cancer

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Abstract

Pancreatic ductal adenocarcinoma (PDAC) represents an aggressive tumor with a low five-year survival rate of less than 10%. Only 20% of patients are estimated to be eligible for upfront curative resection at the time of presentation. The larger group of borderline resectable (BRPC) and locally advanced pancreatic cancers (LAPC) had much poorer outcomes in the past. Although there are improvements for the multimodal therapy of PDAC, surgery remains the single hope for a cure. Combined with adjuvant and/ or neoadjuvant treatment, pancreatic surgery can enhance five-year survival by up to 20%. However, pancreatic resection is widely associated with a high risk of complications and is regarded as one of the most complex surgical procedures. TRIANGLE operation should be added to pancreatic surgery armamentarium as a key procedure, with the potential to increase the number of harvested lymph nodes, reduce the complications rate, and better radical treatment efficacy for BRPC and LAPC be converted to resectability after neo-adjuvant treatment (NAT). More and more aggressive pancreatectomy has become justified in the context of NAT. Further technical standardization and optimal neoadjuvant strategy are mandatory for the global dissemination of aggressive pancreatectomies. This review summarizes the surgical treatment for BRPC and potentially resectable LAPC based on the current literature, focusing on the "TRIANGLE" concept of pancreatic surgery.

Key words: pancreatic cancer, borderline resectable pancreatic cancer, locally advanced pancreatic cancer, pancreatectomy, TRIANGLE operation