

Current Definition of Borderline Resectable Pancreatic Cancer and Its Limitation

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It is needless to speak of the dismal outcome of pancreatic cancer with 5- year overall survival of less than 10%. Surgery remains to be the mainstay of treatment for this deadly cancer. The lack of effective systemic treatment despite vigorous search has consolidated the concept of surgery-first approach as the cornerstone of curative treatment.

As resection is considered to offer the only chance for cure, complete resection, i.e. R0 resection is of a paramount importance to surgeons and oncologists. Therefore, preoperative determination of resectable and unresectable pancreatic cancer is a central process after diagnosis of pancreatic cancer. However, while clinicians would like to make accurate distinction between resectable and unresectable pancreatic cancer, some patients have vague resectability. There are cases where complete resection of the tumors seems technically possible, but the actual R1 resection rate and the recurrence rate is liable to be high. These unique subset of pancreatic cancer patients are what is often termed "borderline resectable pancreatic cancer".

The concept of borderline resectable pancreatic cancer has been in this field for almost 20 years. But still the definition of borderline resectable has not reached consensus yet. There are no less than 6 different definitions of borderline resectable pancreatic cancer. Borderline resectable pancreatic cancer was defined by various institutions and study groups. They include MD Anderson Cancer Center, American Hepatopancreatobiliary Association/Society for Surgery of the Alimentary Tract/Society of Surgical Oncology, National Comprehensive Cancer Network, Intergroup trial (Alliance A0211191), American Pancreatic Association, and so forth. There are many definitions of borderline resectable pancreatic cancer, but with many limitations that needs to be discussed.

The various definitions are more or less similar, but the fact that a uniform definition of borderline resectability itself is a big limitation.

The current definitions are dependent on radiological findings. The accuracy of radiologic imaging studies limit the current definition of borderline resectable pancreatic cancer. In addition to the limited accuracy of the imaging studies, the terms used in the definitions are ambiguous,

arbitrary, and subjective.

Another limitation to consider is that the current definitions are anatomical ones. However, anatomy is not the only important factor when considering curability and others such as biologic factors may have an equal or even higher importance in terms of curability.

One of the important purposes in defining borderline resectable pancreatic cancer is to find the optimal treatment strategy for the group. However, there is no knowing whether the patients that are found to have borderline resectable pancreatic cancer by the definitions are an actual homogenous subset of patients in terms of resectability and/or treatment strategy.

Borderline resectable pancreatic cancer is an important subgroup that needs to be explored so that clinicians may offer better chance of cure to patients; so that we may not give up on some patients with a potential curability. But to define these patients more accurately, we must have an insight into the current definitions and their limitations. This insight will be a foundation to establishment of better definition which will eventually lead to improved outcome of pancreatic cancer treatment.