

Limited Resections for Duodenal GISTs

Jun Chul Chung

Soonchunhyang University

Abstract:

Gastrointestinal stromal tumors (GISTs) are the most common mesenchymal tumors arising within the gastrointestinal tract. They are diagnosed by morphologic findings of spindle cells and by CD117 (c-kit protein) positivity. Although GISTs can arise anywhere in the gastrointestinal tract, the stomach (50%-60% of cases) is the most common site, followed by the small intestine (20%-30%), and rarely, the colo-rectum (10%). Duodenal GISTs comprise a relatively small subset of GISTs, with a reported frequency of 6%-21% of surgically resected GISTs.

Surgical resection with clear margins is the desirable primary treatment of GISTs. Sometimes, for complete removal of tumor, an aggressive surgical approach such as pancreaticoduodenectomy (PD) may be indicated if the tumor is located in the second portion of the duodenum or there is a high risk of aggressive clinical behavior. Although PD has been reported to be associated with a low mortality rate, it remains a complex surgical procedure with significant short and long-term morbidity. Recent studies of meta or multi-center analyses have shown that limited resection should be the procedure of choice for duodenal GIST whenever technically feasible, because of better oncologic outcomes and lower morbidity than PD. As GISTs are rarely associated with submucosal spread or local lymph node involvement, wide margins with routine lymph node dissection may not be required. According to recently published studies, limited resection can be considered as a curative treatment option for duodenal GISTs, as for GISTs involving other sites of the gastrointestinal tract, whenever technically feasible. However, the optimal surgical procedure for duodenal GISTs has not been well characterized.

Various techniques of limited resection for duodenal GISTs have been advocated depending on the site and size of the tumor. Wedge resection with primary closure can be performed for small lesions if the resulting lumen is adequate and the ampulla of Vater can be preserved. After wedge resection, Roux-en Y duodenojejunostomy can be performed for larger tumors involving the antimesenteric border of the second or third portion of the duodenum. Recent anatomical knowledge of the head of the pancreas has allowed surgeons to devise various methods of safe duodenal resection preserving the pancreatic head. Segmental duodenectomy with side-to-end or end-to-end duodenojejunostomy can be performed for larger tumors located in the third or fourth portions of the duodenum.

Excellent recurrence-free survival and surgical curability can be achieved for duodenal GISTs by complete limited duodenal resection with clear margins. Thus, various methods of limited resection, depending on the location and the size of the tumor, should be considered as the treatment of choice for duodenal GISTs when technically feasible.