

From Classic Whipple to Pylorus Preserving Pancreaticoduodenectomy and Ultimately to Pylorus Resecting – Stomach Preserving Pancreaticoduodenectomy: A Review

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Abstract

Pancreaticoduodenectomy is the procedure of choice for benign or malignant tumors of the periampullary region. The preservation of the pylorus has been established as the mostly utilized approach during pancreaticoduodenectomy among the majority of specialized, in the surgical treatment of pancreatic cancer, centers worldwide. The factors that influenced this predilection are the shorter operation times, the less intraoperative blood loss, the decreased technical difficulty, and the quite similar short- and long-term outcomes compared to the classic Whipple. However, there is a notable trend in the literature highlighting the increased incidence of delayed gastric emptying following pylorus preserving pancreaticoduodenectomy. Among other factors, pylorus dysfunction attributable to the surgical maneuvers has been implemented in the etiology of this complication. In an attempt to overcome this limitation of the pylorus preserving pancreaticoduodenectomy, pylorus resecting pancreaticoduodenectomy with the preservation of the stomach was proposed. In theory, pylorus resecting pancreaticoduodenectomy could maintain the advantages of organ sparing surgery, but at the same time guarantee a more seamless gastric emptying. Only three RCTs, to date, aimed to evaluate the approach with only one reporting results in favor of the pylorus resecting pancreaticoduodenectomy in regard to the incidence of delayed gastric emptying. Further well-designed prospective randomized studies are needed for an accurate assessment of the true role of each of these surgical alternatives on the treatment of pancreatic cancer.

Key words: pancreatic cancer, Whipple's procedure, pylorus preserving pancreaticoduodenectomy, pylorus resecting pancreaticoduodenectomy, delayed gastric emptying