

Minimally Invasive Approaches to Pancreatic Surgery



Deepa Magge, MD^{a,*}, Amer Zureikat, MD^a, Melissa Hogg, MD^a, Herbert J. Zeh III, MD^b

KEYWORDS

- Pancreatic adenocarcinoma • Whipple • Distal pancreatectomy • Minimally invasive • Open

KEY POINTS

- Open and minimally invasive approaches to pancreatic surgery for benign and malignant lesions have been shown to be equivalent in regards to their safety profiles in multiple large single institution series.
- Emerging multicenter data indicate that outcomes including morbidity/mortality, fistula occurrence, and overall survival are equivalent between the two distinct operative techniques.
- Laparoscopic and robotic surgical techniques have gained increasing acceptance over the last few years especially in the setting of pancreatic malignancy and may be associated with decreased patient hospital stays and comparable oncologic outcomes.

INTRODUCTION

Minimally invasive techniques have the potential to revolutionize the surgical management of pancreatic disease in the setting of benign and malignant processes. Both laparoscopic and robot-assisted approaches to pancreatic surgery have made open procedures, traditionally wrought with high morbidity, safer and more feasible.¹ There still remains no consensus regarding the oncologic efficacy of minimally invasive surgery for pancreatic cancer even though median survival after open resection remains 16 to 19 months with 5-year overall survival averaging 22% to 25%.² Recent advances in minimally invasive surgery seem to reduce the perioperative morbidity of

The authors have nothing to disclose.

^a Division of GI Surgical Oncology, University of Pittsburgh Medical Center, 200 Lothrop Street, Pittsburgh, PA 15213, USA; ^b Division of GI Surgical Oncology, University of Pittsburgh Medical Center, 5150 Centre Avenue, Suite 417, Pittsburgh 15232, PA, USA

* Corresponding author.

E-mail address: maggedr@upmc.edu

Surg Oncol Clin N Am 25 (2016) 273–286

<http://dx.doi.org/10.1016/j.soc.2015.11.001>

surgonc.theclinics.com

1055-3207/16\$ – see front matter © 2016 Elsevier Inc. All rights reserved.

pancreaticoduodenectomy for benign tumors while maintaining a perioperative safety profile equivalent to open approaches. The laparoscopic pancreaticoduodenectomy (LPD) was initially met with skepticism because of long operative times, but has now been established as safe and feasible when performed by select high-volume surgeons at experienced centers.³ The robotic pancreaticoduodenectomy (RPD), first performed in 2007, is now being increasingly used because of the perceived benefits of stereotactic vision, magnification, platform stability, and favorable ergonomics.⁴ Our institution is a strong advocate for minimally invasive approaches to pancreatic surgery and has demonstrated equivalent outcomes between open, laparoscopic, and robotic approaches and favors the robotic technique for benign and malignant processes of the pancreas. The urgency and potential benefits of minimally invasive surgery for patients with pancreatic cancer are highlighted by two recent observations: findings from the National Cancer Database show that 71.4% of patients with clinical stage 1 pancreatic adenocarcinoma currently choose no therapy for their disease and experience shorter survival compared with patients treated with pancreatectomy ($P < .001$) suggesting a nihilism and fear about pancreatic surgery; and nearly half of patients undergoing open pancreaticoduodenectomy (OPD) have complications preventing administration of proven adjuvant chemotherapy.⁵ Wu and colleagues⁶ have demonstrated the impact of postoperative complications on the administration of adjuvant therapy following pancreaticoduodenectomy for adenocarcinoma. In their retrospective review of 1144 patients who underwent pancreaticoduodenectomy between 1995 and 2011, they noted an overall complication rate of 49.1%, and overall, 54% of the patients received adjuvant chemotherapy. Presence of a postoperative complication led to a definite delay in time to adjuvant therapy and reduced the likelihood of receiving multimodality therapy.

This article presents a review of two minimally invasive techniques for distal pancreatectomy (DP) and pancreaticoduodenectomy, focusing on metrics of technique, safety, morbidity, and oncologic outcomes and potential benefits.

LAPAROSCOPIC DISTAL PANCREATECTOMY

Indications for Minimally Invasive Distal Pancreatectomy

The minimally invasive approach to the DP (MIDP) is now considered by many to be the preferred method of resection for benign and malignant tumors of the distal pancreas. Several studies have been performed, collectively supporting that LPD and RPD can be performed with superior results to the open approach in patients with benign and malignant disease.^{1,3,4} Specifically, the minimally invasive approach results in shorter hospital stay, reduced blood loss (EBL), and decreased complication rates.^{4,7,8} Similar oncologic resections can be accomplished in terms of lymph node dissection and resection margins, although larger reports of long-term survival are still lacking. Current absolute contraindications to LPD or RPD include prohibitive medical comorbidities and poor patient functional status. Relative contraindications include locally advanced malignancies, vascular invasion, and prior major abdominal operations.⁸ Involvement of the celiac trunk is not an absolute contraindication to minimally invasive approach.

Technique of Laparoscopic Distal Pancreatectomy

The patient is placed in supine position, and the peritoneum is accessed either via a Veress needle approach or optical separator technique, which are both inserted in the left subcostal area to induce pneumoperitoneum. The second trocar is then inserted in the right supraumbilical region (12 mm). The remaining trocars are then

Download English Version:

<https://daneshyari.com/en/article/3998424>

Download Persian Version:

<https://daneshyari.com/article/3998424>

[Daneshyari.com](https://daneshyari.com)