

Review1:

Dear professor:

Thank you for your time and your very pertinent comments, there are big help to us.

This is a good manuscript and the theme is current. In fact when we compared laparoscopic versus open pancreatoduodenectomy there is no big “leap”, especially due to the difficulty in the pancreatic anastomosis. But in the robotic assisted surgery it is different and the surgeon can make a safe pancreatic anastomosis. So, it is important that the author describe: 1- how made the robotic pancreatic anastomosis?

Dear professor, Our article is about the surgical path of robotic pancreaticoduodenectomy for periampullary carcinoma. The focus is on the path of resection. At present, there are many descriptions of the method of pancreaticojejunostomy, We also have improvements in this area. We have also written a Chinese article on the way of robot pancreaticojejunostomy. We named it the “double-U three-step” method. I attach the figures here so that you can better understand it.

Step1: Appropriately free the pancreas stump about 1 cm to prepare for anastomosis, and lift the proximal jejunum close to the pancreatic stump after passing through the transverse colon. Determine the position of the pancreatic duct, insert a suitable pancreatic support tube, and avoid suturing the pancreatic duct when suturing. Use 3-0 Prolene (26mm, 1/2c, ETHICON, USA) to make two independent U-shaped sutures perpendicular to the pancreas on both sides of the pancreatic duct. The double U should be parallel to the section of the pancreas, and the distance from the ventral pancreas to the section is about 1cm. Insert the needle at the place, sut through the entire layer of the pancreas stump and the serosamus layer of the jejunum, and then return to the ventral side of the pancreas to take out the needle. After the double U in the first step is completed, the jejunum is fixed to the back of the pancreas, so that the back wall of the pancreas fits tightly with the jejunum, which strengthens the back wall and effectively reduces the tension of the suture process.

Step2: Properly incise the jejunum at the corresponding position of the pancreatic duct, take out the pancreatic support tube, and use 4-0 Prolene (19mm, 3/8c, ETHICON, USA) to complete the pancreatic duct and the pancreatic tissue next to the jejunum at 12 o'clock and 6 o'clock. Layer 2 longitudinal U-shaped sutures as the posterior wall of the anastomosis.

Step 3: Place the pancreas support tube, one end into the distal end of the pancreatic duct, and the other end into the jejunum. Use 4-0 Prolene to close to the support tube to perform 3-needle intermittent suture on the front wall of the pancreatic duct and the pancreatic tissue in front of the entire jejunum as the front wall of the anastomosis. After the 3-needle suture is completed, tighten the knot together. The exposed section of the pancreas can be reinforced with appropriate intermittent sutures. Check the firmness of the PJ and complete the PJ.

Recently we are collecting and statistical data, in the further study we will focus on our pancreaticojejunostomy method.

“双 U”三步法胰肠吻合术在机器人胰十二指肠切除术中的应用

朱洪银¹ 霍天宇² 崔王平¹ 张昕宁¹ 董烨¹ 魏志刚²

【摘要】 目的 探讨“双 U”三步法胰肠吻合术(PJ)在机器人胰十二指肠切除术(RPD)中的可行性。方法 回顾性分析 2017 年 6 月至 2019 年 6 期间行 RPD 的 28 例患者病例资料,对术中情况及术后并发症进行分析。结果 28 例患者均顺利完成手术,“双 U”三步法吻合时间为 17 ~ 35 min,平均 23.5 min,术中出血量 50 ~ 600 ml,平均 178.3 ml。术后 5 例患者出现并发症,其中 3 例(8.6%)出现术后胰瘘(POPF),均为 B 级,经抑制胰液分泌,延长腹腔引流时间及营养支持治疗后痊愈。2 位患者出现胃排空延迟,经保守治疗后康复出院。平均术后住院时长 13.9 d(3 ~ 63 d),无住院期间死亡病例。结论 “双 U”三步法 PJ 操作简便,利于学习,吻合质量安全可靠,愈合快,应用范围广,对减少并发症及降低 POPF 有一定优势。

【关键词】 胰十二指肠切除术; 机器人; 胰腺瘘; “双 U”三步法; 胰肠吻合术

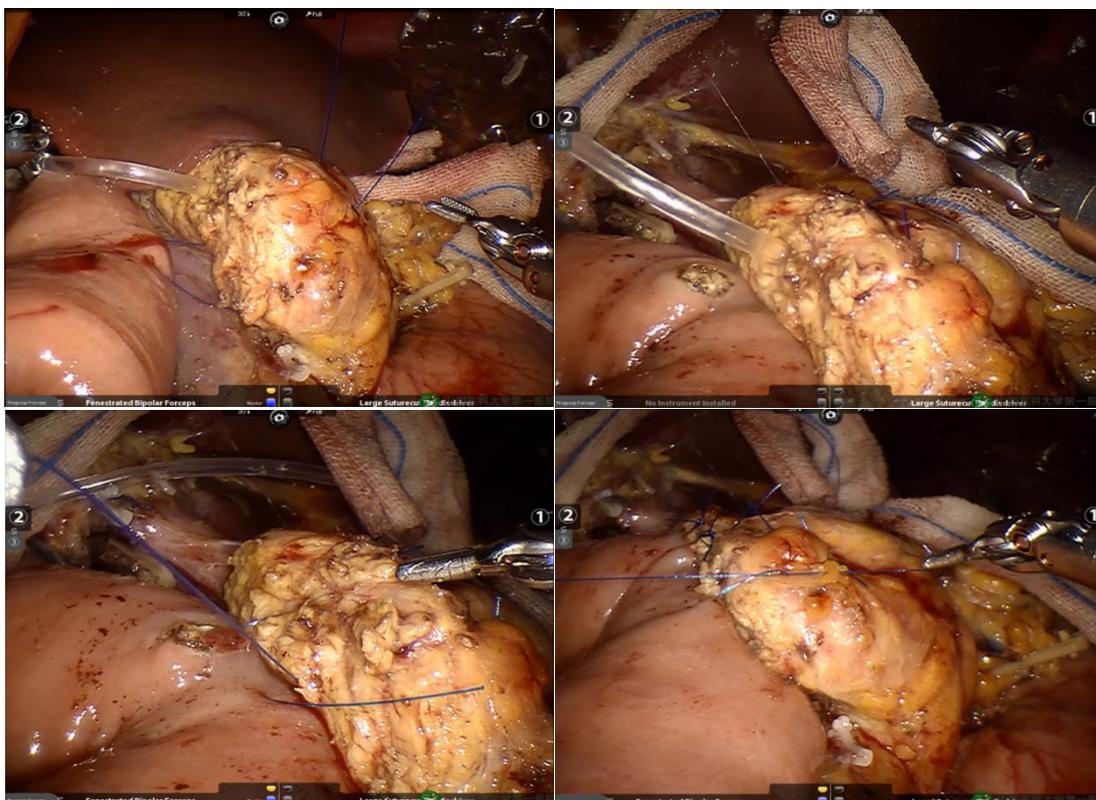
Application of “double-U” three-step pancreaticojejunostomy in robotic pancreaticoduodenectomy

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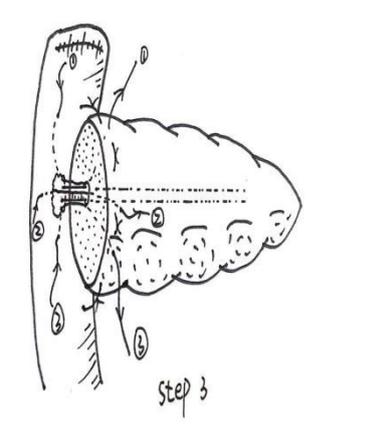
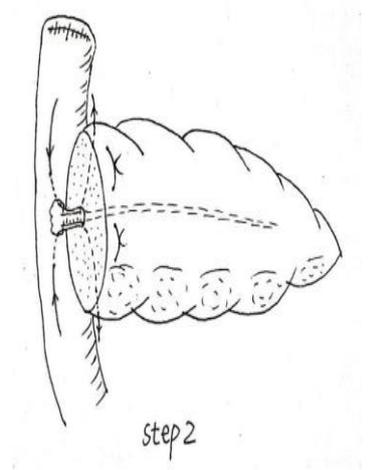
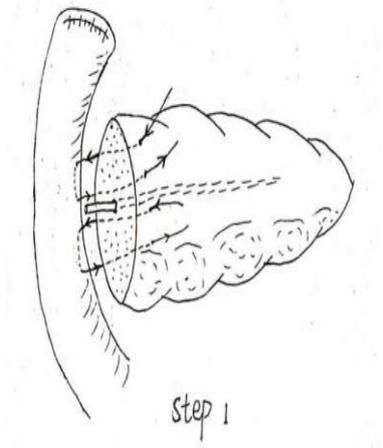


图 1 “双 U”三步法示意图

2- There were used pancreatojejunum anastomosis?

Dear professor, thank you for your question, we have answer this question in No.1.

3- When them used pancreatogastric anastomosis?

Dear professor, we do not use pancreatogastric anastomosis.

4- For the definition of the technique they considered the diameter of the Wirsung duct? The manuscript is about systematization of a technique and in my opinion digestive tract reconstruction information it is important, mainly why the author shows a high number of pancreatic fistula (28%), table 2. For me is poor the author only to quote in the last line in surgical procedure : “The technique of anastomosis was basically the same as that in a previously published article by Liu et al” .

Dear professor, thank you for your question, we have considered the diameter of Wirsung duct. According to the current research on the method of pancreaticojejunostomy, our research is basically consistent with the incidence of pancreatic fistula in other articles, so our incidence of pancreatic fistula is not high, and most of our postoperative patients are grade A or Grade B fistula does not occur with Grade C fistula. In recent years, studies have found that the incidence of pancreatic fistula after pancreaticojejunostomy seems to be more related to the texture of the pancreas.

Thank you again for your comments, we did our best to answer those one by one, and the manuscript was carefully edited by two native English speakers, hope you can satisfied, best wishes to you!



The English writing of the following manuscript was carefully edited by a native English speaker.

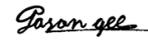


ID	AE202012190317
Editing date	2020-12-24
Title	The learning curve for a surgeon in robotic pancreaticoduodenectomy through "C"-shaped approach: a CUSUM Analysis
Corresponding author	Zhigang Wei
Language writing before editing	<input type="checkbox"/> Very poor <input type="checkbox"/> Poor <input checked="" type="checkbox"/> Fair <input type="checkbox"/> Good <input type="checkbox"/> Very good <input type="checkbox"/> Excellent
Recommendation after language editing	<input type="checkbox"/> Submitting to target journal directly <input checked="" type="checkbox"/> Submitting to target journal after minor revision <input type="checkbox"/> Re-editing required after major revision <input type="checkbox"/> Not suitable for publication
Overview comments	Complete author-related information should be provided in the Title. Tables and figures cited in the Results should be provided. Acknowledgements, conflict of interest, and funding information should be provided. Thank you.




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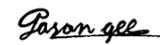


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Corresponding author	Zhigang Wei
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Recommendation after language editing	<input type="checkbox"/> Submitting to target journal directly <input checked="" type="checkbox"/> Submitting to target journal after minor revision <input type="checkbox"/> Re-editing required after major revision <input type="checkbox"/> Not suitable for publication
Overview comments	Absolutely incredible! Save for a few areas, your discussion points were clearly stated within your sentences and the ideas within your paragraphs were fluid from one to the next. I made comments on a few sections where clarification was needed. However, for the sections that were not as well-written as the rest of your work, I found that this problem stemmed from a few recurring issues. These included abbreviation usage (the word or phrase should be given before using its corresponding abbreviation); subject-verb agreement; a misuse of adjective articles (such as "a," "the," and "an"); equation formatting (concerning spacing); awkward sentence structure or vocabulary usage; and punctuation formatting. Despite these issues, I would say you did a very good job in presenting your work in a clear and concise manner. Please take a look at your manuscript once more and make changes where necessary before your final submission to ensure that the edits fit your preferred writing style and any academic writing requirements specified -- this especially holds importance for citing references and how to properly write "P value" (such as whether it should be hyphenated or capitalized). Also, please be sure to give special attention to the commented sections of your manuscript. Overall, very well done and thank you for your contributions to your field.



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Review 2:

Dear professor:

Thank you for your time and your very pertinent comments, there are big help to us.

The article is interesting entitled that the learning curve for a surgeon in robotic pancreaticoduodenectomy through a "G"-shaped approach: CUSUM analysis; however, there is an essential issue. Therefore, I will point out some corrections to which I would like the author to refer.

1) The introduction should be briefly described, focusing on the current status, problems of Robot PD, and the methodology for improving the learning curve and operative time.

Dear professor, we have modified the manuscript according to your suggestion.

2) "Preoperative enteral ~ with obstructive jaundice" is not a surgical procedure.

Dear professor, thank you for your suggestion, we have deleted this.

3) " Surgical procedure" in the method part should describe the G-shaped approach more briefly. For example, how about explaining 1-7 of Figure 3 in detail? By the way, there is no explanation about 7 in Figure 3. It is better to add it.

Dear professor, we have modified according to your advise, we elaborated the surgical process in detail according to the order in figure3, and marked it, so that readers can better understand.

4) Discussion should be described based on the study results. For example, how much has the Learning curve improved compared to the previous reports? How about the operative time? How is the G-shaped approach different from previous RPD approaches?

Dear professor, thank you for your suggestion, we have discussed these in manuscript, "Zhang et al.¹⁸ demonstrated that RPD has a shorter learning curve compared to LPD. Several studies¹¹⁻¹³ have focused on the learning curve of RPD;

however, the learning curve is still long. Therefore, we need to constantly improve the RPD surgical approach to overcome the existing shortcomings. Compared with the other study, the learning curve could be completed after 16 patients in our study, and after 16 patients, the outcomes of RPD included less operative time, estimated blood loss, postoperative stay, bile leakage and delayed gastric emptying. Postoperative pathology confirmed that all cases included in our study achieved R0 excision. There were no cases of conversion or death, which indicated that the prognosis may be better.” “The "G"-shaped surgical approach proposed in this study is conducive to a free Kocher incision. The treatment of the uncinate process and the superior mesenteric vessels is considered as the last step of the process, which makes it easy for the beginners to master the technique. Studies²⁶ have shown that patients with ampullary carcinoma had a high metastasis rate at No.13, 14, 8, and 12 group lymph nodes. In GRPD, the stomach was isolated first and turned to the left to reveal the common hepatic artery and hepatoduodenal ligament, which was conducive for a three-dimensional lymph node dissection of 8a and 8p lymph nodes. After lymph node cleansing, the common hepatic artery was suspended to isolate the hepatic artery and gastroduodenal artery. We divided the hepatoduodenal ligament into three parts of left front, left posterior, and right sides and completed cleansing. Meanwhile, we handled the small branches imported to the portal vein system. Good exposure of the upper edge of the pancreatic portal vein was conducive for establishing the posterior pancreatic tunnel. In some patients, the establishment of the posterior pancreatic tunnel was more difficult because of inflammation caused by tumor compression. In

these patients, forcible establishment of the posterior pancreatic tunnel might lead to portal vein and superior mesenteric vein tear. To avoid uncontrollable bleeding caused by blood vessel tear, we recommend isolating the upper and lower edges of the pancreas first instead of creating a posterior pancreatic tunnel forcibly. We isolated the neck of the pancreas to expose the superior mesenteric vein. We pulled and suspended the superior mesenteric vein to the left with a vessel band, dragged the superior mesenteric vein to the left of the SMA. Then, we isolated the pancreatic tissue and branch of the blood vessels close to the blood vessel wall to completely resect the whole pancreatic membrane. Maximum retention of nerve tissues on the left side of the SMA is essential to avoid the postoperative refractory diarrhea. This approach is based on the "periphery to center, easy to difficult, small vessel ligation first, and large vessel ligation last" principle to reduce intraoperative bleeding throughout the process. Also, it might avoid the spread of tumor cells, reduce abdominal harassment and accelerate the postoperative recovery of intestinal function; however, this needs further research."

5) The conclusion should correspond to the purpose. If the conclusion is to be used, the aim should be revised. For example, the aim of the study is to examine whether the G-shaped approach is effective. Then, improvement of operative time, complication rate, and learning curve are evaluated. Otherwise, the author should rewrite the conclusion. For example, G-shaped provides some new ways, and it shortens the learning curve.

Dear professor, thank you for your advise and we have modified. 'aim: this study aimed to investigate the effective and learning curve of a "G"-shaped surgical

approach in RPD for patients.’ ‘conclusion: The "G"-shaped surgical approach is effective, and this approach can shorten the surgical learning curve. ’

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