Asian Journal of Surgery (2019) 42, 420–421

Available online at www.sciencedirect.com

ScienceDirect

journal homepage: www.e-asjsur.com

LETTER TO EDITOR

Modified end-to-side pancreaticojejunostomy for reducing pancreatic fistula after pancreaticoduodenectomy: A surgeon's experience

Dear Editor,

We have recently read the article "A modified technique of pancreaticogastrostomy with short internal stent: A single surgeon's experience" published in your journal by Pei Yi Yap et al from Sunway University, Malaysia,[1] in which a modified pancreaticogastrostomy (PG) for digestive tract reconstruction during pancreaticoduodenectomy (PD) was described. Two-layer pancreatic anastomosis with a internal pancreatic duct stent tube was used. To date, the controversy regarding the PJ and PG continues to persist, and no one technique has proved to be superior to another.[2,3] Therefore, it is necessary to choose a suitable anastomosis method in clinic. We believe that proper and high quality anastomosis is critical for reducing postoperative pancreatic fistula (POPF).

Here we would like to describe our clinical experience on a double-layer anastomosis in PJ which could reduce the POPF dramatically. In our surgery, the pancreas was incised firstly, and the pancreas at 2 cm from the pancreatic stump was isolated for anastomosis without affecting blood supply. In addition, the pancreatic duct stent tube was placed and bundled to prevent prolapse. The blind end of the jejunum was reserved 5 cm to ensure blood supply around the anastomosis site and prevent stenosis. The posterior capsule of the pancreas was exposed, and two needles were used to suture from the midpoint of the posterior capsule to the both sides with a 4-0 PDS line at the site of 1 cm from the end of the pancreas. After each suture of the pancreatic posterior capsule of the pancreatic stump, the seromuscular layer of the jejunum opposite to the mesenterium was sutured. Once the suture has been completed, the enteric canal is pushed gently to the posterior pancreatic stump, and the suture line is straightened. Thus, the position of the enteric canal is fixed, and the sutures are not movable due to the elasticity of the intestinal canal. The above process can be completed under direct vision, and no tissues are pulled and torn. Subsequently, the enteric canal is opened to approximately half of the width of the pancreatic cut edge at the position of 1.5 cm away from the anastomosis. The upper and lower corners of the cut canal are pulled straight and sutured with the superior and inferior margins of the pancreatic cut edge, respectively. The sutures are placed between the whole layers of the enteric canal and the half of the pancreas with 4-0 PDS to fix both corners. Therefore, the posterior of the pancreatic stump comes close to the posterior wall of the enteric canal and fixed. The 4-0 PDS line is used to suture the whole layer of enteric canal and the remaining half of the pancreatic stump continually with homeostasis effect on the pancreatic stump. Notably, it is better to insert the needle from the enteric canal side and exit from the pancreatic side. After the posterior layer anastomosis has been completed, a hole on the blind side of the jejunum is made to place the pancreatic stent tube. The whole anterior layer is sutured by the above method, and two 4-0 PDS stitches are used to suture the anterior wall of the pancreas and jejunal seromuscular layer. Finally, all sutures are tied, and the anastomosis is completed (Fig. 1).

A total of 19 patients who underwent PD between 2015 and 2019 was retrospectively analysed. All of them were recovered smoothly. None of the 19 patients had POPF, and no mortality was observed. During the postoperative hospital stay, complications occurred in 4 patients (21.1%): an

https://doi.org/10.1016/j.asjsur.2018.09.010

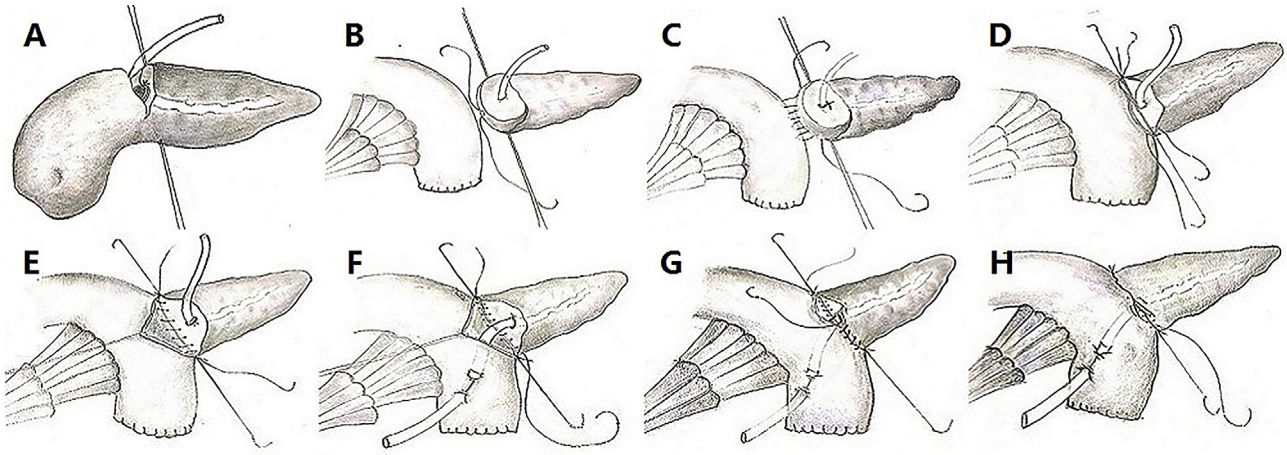

Figure 1 Schematic illustration of the modified PJ.

acute respiratory failure, a gastrointestinal fistula with lung infection, a delayed gastric emptying, and a peripheral effusion of the liver.

In summary, it is critical for surgeons to pay much attention to the surgical details in end-to-side PJ. The surgeon's experience and considerations demonstrated here will be certainly provide valuable instructions for in young surgeons in their future end-to-side PJ surgeries. Future randomized, large-volume trials are required to corroborate our preliminary results.

Funding

The study was supported by the Grassland Talents Programs and Grass Talents Innovative Group Programs of Inner Mongolia Autonomous Region (Year 2015 and Year 2018), the Natural science foundation of Inner Mongolia (2017MS08354) and the Science and Technology Plan Project of Inner Mongolia (Year 2017).

Conflicts of interests

All the authors have no potential conflicts of interest to disclose.

Acknowledgements

We would like to acknowledge with gratitude the contribution of the colleagues of the department of Hepatobiliary, Pancreatic and Splenic Surgery, The Affiliated Hospital of Inner Mongolia Medical University.

References

1. Yap PY, Hwang JS, Bong JJ. A modified technique of pancreaticogastrostomy with short internal stent: a single surgeon's experience. *Asian J Surg*. 2018;41(3):250—256.
2. Guerrini GP, Soliani P, D'Amico G, et al. Pancreaticojejunostomy versus pancreaticogastrostomy after pancreaticoduodenectomy: an up-to-date meta-analysis. *J Investig Surg*. 2016;29(3):175—184.
3. Clerveus M, Morandeira-Rivas A, Picazo-Yeste J, Moreno-Sanz C. Pancreaticogastrostomy versus pancreaticojejunostomy after pancreaticoduodenectomy: a systematic review and meta-analysis of randomized controlled trials. *J Gastrointest Surg*. 2014;18(9):1693—1704.

Jiang Zhou
Jing-rui Yang
Lu Wang
Jian-jun Ren*
Department of Hepatobiliary, Pancreatic and Splenic Surgery, The Affiliated Hospital of Inner Mongolia Medical University, Huhhot 010051, PR China

Rui Xiao**
Key Laboratory of Molecular Pathology, Inner Mongolia Medical University, Huhhot 010059, PR China

*Corresponding author. Department of Hepatobiliary, Pancreatic and Splenic Surgery, The Affiliated Hospital of Inner Mongolia Medical University, #1, Tongdao North Street, Huhhot 010051, PR China.
E-mail address: renjj.ok@163.com (J.-jun Ren)

**Corresponding author. Key Laboratory of Molecular Pathology, Inner Mongolia Medical University, #5, Xin Hua Street, Huhhot 010059, PR China. Fax: +86 471 6637971.
E-mail address: xiaorui79@hotmail.com (R. Xiao)

20 September 2018