

## Postoperative Duodenal Obstruction Triggered By Undesired Disruption of Duodenal Blood Supply During Surgery-Clinical Problem Solving

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### KEY WORDS

Duodenal Obstruction; Erythromycin; Ischemic Duodenum; Limited Local Surgery; Pancreatic Cystic Neoplasm.

### OPINION ARTICLE

As we all well known, the pancreatic cystic neoplasm is very common in clinical practice, which is recognized as a surgical indication of limited local surgery due to its convenience as well as safety [1, 2]. Generally, the majority of pancreatic cystic neoplasm should be considered as benign and can be kept under surveillance, if the diameter of it is less than 3.0 cm. As a matter of fact, it is not completely accurate that the neoplasm cancerization is judged only by the size of the cyst. Active surgery intervention may be more appropriate. However, postoperative ischemia-origin duodenum obstruction was rarely reported except for Jia et al reported last year [3]. Although the hospital mortality is less than 1% [4], ischemia duodenal obstruction after surgery is very interesting for some surgeons and is worthy of discussing once again. Herein, authors would like to share their experience of limited case.

Despite of accurate removal for pancreatic cystic mass and other pancreatic diseases (i.e. Inflammatory mass, neuroendocrine tumor) performed well [5-7], some surgeons may likely make mistakes by ignore of duodenum blood supply due to lack of awareness. As a result, the patient may suffer from Ischemia - origin duodenum-related complications.

As a matter of fact, duodenum has a quite complex but fragile vascular system, which is likely to be damaged due to unskilful surgical procedures or lack of awareness of reserving essential tissue closer to duodenum or diathermy burn by misusing of some surgical equipment. Theoretically, the duodenum blood supply system consists of branches of anterior/posterior pancreaticoduodenal arteries, the end of branch of which

may go along with periduodenal tissues. If it is removed unintentionally, duodenum will lose enough blood supply accordingly. Hence, at least over the level of duodenal papilla, about 0.5~1.0 cm length of mesmeric tissue around the margin of duodenum, should be protected as normally. Once ischemic duodenum is found during surgery, a segment of duodenal resection and end-to-end duodenum to duodenum anastomoses should be performed in time. However, duodenum obstruction after limited surgery appears to be no way to deal with except for wait-to-see or reoperation. Obviously, nonsurgical managements may be priority.

In authors' expertise, these findings may be helpful to make an early judgment. A. Obvious symptoms of nausea and vomiting when the patient taking meal, but mild physical signs found. B. Obvious thickened wall of duodenum, but no specific findings intra- and extra-duodenum luminal. C. Various inflammatory markers are often normal. D. The time of delayed gastric emptying is beyond expectancy. The findings are easily confirmed by duodenoscopy and/or contrast X-ray examination of upper digestive tract. More importantly, it's necessary to get to know about the true processing concerning on the key steps. Additionally, diathermy burn to vessels net around duodenum maybe the another important factor.

In the past, placement of short-term duodenal stent was needed to allow food navigating through duodenum. But this way is not surpass than a month. In addition, the placement of stent or drainage tube sometimes is not so easy to be performed to negotiate a very structure passage of duodenum.

What we can do?

Erythromycin recognized firstly as an antibiotic. But its adverse effects of promoting gastrointestinal movement also play an important role to settle gastric paralysis or inflammatory intestinal obstruction.

Herein, Jia et al [7] firstly applied large dose of Erythromycin, aiming to improve the ischemic duodenal obstruction, for the first time was applied authors' previous report [3]. Combination with Procaine, Dexamethasone irrigated into duodenal luminal cavity does matter to resolve postoperative ischemia-origin duodenum obstruction as significantly.

Notely, in clinical practice, there are too many similar factors to be identified clearly, the wise strategy is let issue go, because what we indeed needs to settle problem rather than identifying the etiology or detailed data.

In conclusion, once ischemia-origin duodenal obstruction after limited local surgery is confirmed or suspected, early applications of large amount of Erythromycin intravenous combined with irrigating Dexamethasone or Procaine into the obstructive duodenum may be worth learning.

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#### CONFLICTS OF INTEREST

All authors declare that they have no conflicts of interests concerning the paper.

#### REFERENCES

1. Megibow AJ, Lombardo FP and Guarise A. (2001). Cystic masses: cross-sectional imaging observations and serial follow up, *Abdominal Imaging*. 26: 640-642.
2. Beger HG, Schwarz M and Poch B. (2012). How I do it: duodenum-preserving total pancreatic head resection for benign cystic neo-plastic lesions. *J Gastrointest Surg*. 16: 2160-2166.
3. Jia Z, Wan YF, Lu J and Li ZT. (2016). Duodenal Obstruction Linked to Duodenum Ischemia after Limited Local Surgery of Pancreatic Cyst Disease. *Surgery Curr Res*. 6(5): 276.
4. Kalish BT, Vollmer CM and Kent TS. (2013). Quality assessment in pancreatic surgery: what might tomorrow require? *J Gastrointest Surg*. 17: 86-93.
5. Traverso LW and Longmire JP. (1978). Preservation of the pylorus in pancreatoco-duodenectomy. *Surg Gynecol Obstet*. 146: 959-962.
6. Brient C, Regenet N and Sulpice L. (2012). Risk factors for postoperative pancreatic fistulization subsequent to enucleation. *J Gastrointest Surg*. 16: 1883-1887.
7. Stark A, Donahue TR, Reber HA and Hines OJ. (2016). Pancreatic cyst disease: a Review. 315(17): 1882-1893.