

Endoscopic and/or laparoscopic full-layer resection of gastric ectopic pancreas arising from submucosal and muscular layers



To the Editor:

We read with interest the article by Gong et al¹ on endoscopic submucosal dissection (ESD) of a gastric ectopic pancreas with pancreatitis and pseudocyst. They conservatively managed acute pancreatitis of the ectopic pancreas, but severe inflammation and pseudocyst developed. EUS showed a homogenous hypoechoic lesion with a ductal structure localized in the third (submucosa) and fourth (muscularis propria) echo-layers. Although they performed ESD of the ectopic pancreas and pseudocyst, we believe that their management would be insufficient.

We have described the EUS appearance of an ectopic pancreas characterized by an indistinct margin, heterogeneous appearance, and location within either the third and fourth echo-layers (fusion type) or only in the third echo-layer (separate type).² All lesions of the fusion type were Heinrich type I (all elements of the normal pancreatic tissue); those of the separate type were Heinrich type II (pancreatic tissue without islet cells) or type III (pancreatic ducts only). Because the lesion described by Gong et al¹ was the fusion type, we suspect that the lesion was Heinrich type I.

Most patients with ectopic pancreas are asymptomatic, but nonspecific GI symptoms associated with pancreatitis, cyst formation, jaundice, abscess formation, gastric outlet obstruction, or malignant change have been described.³⁻⁶ When symptomatic lesions were not resected, the patient's symptoms were unchanged.^{5,7} Therefore, symptomatic lesions should be resected.^{2,4-6,8} Although Gong et al¹ performed ESD of the lesion, we believe that residual ectopic pancreas tissue would be present in the muscularis propria.

Endoscopic resection of submucosal tumors arising from the muscular layer is challenging and harbors a significant risk of adverse events.^{9,10} Recently, endoscopic full-thickness resection by the use of an over-the-scope clip, and laparoscopic and endoscopic cooperative surgery by combining laparoscopic resection with ESD, have been devised as minimally invasive alternatives.^{9,10} We therefore recommend full-layer resection, either endoscopically, or laparoscopically, or both, as appropriate management of a Heinrich type I gastric ectopic pancreas.

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REFERENCES

- Gong EJ, Kim do H, Cho CJ, et al. Endoscopic submucosal dissection of ectopic pancreas with pancreatitis and pseudocyst formation. *Gastrointest Endosc* 2015;82:1126.
- Matsushita M, Hajiro K, Okazaki K, et al. Gastric aberrant pancreas: EUS analysis in comparison with the histology. *Gastrointest Endosc* 1999;49:493-7.
- Matsushita M, Hajiro K, Takakuwa H. Acute pancreatitis occurring in gastric aberrant pancreas accompanied by paralytic ileus. *Am J Gastroenterol* 1997;92:2121-2.
- Matsushita M, Takakuwa H, Nishio A. Endosonographic features of gastric adenomyoma, a type of ectopic pancreas. *Endoscopy* 2003;35:621-2.
- Matsushita M, Takakuwa H, Nishio A. Endoscopic removal of gastric ectopic pancreas for histologic diagnosis and treatment. *Gastrointest Endosc* 2002;55:456-8.
- Matsushita M, Takakuwa H, Nishio A. Endoscopic removal of heterotopic pancreas for the relief of symptoms. *Am J Gastroenterol* 2002;97:3205-6.
- Riyaz A, Cohen H. Ectopic pancreas presenting as a submucosal gastric antral tumor that was cystic on EUS. *Gastrointest Endosc* 2001;53:675-7.
- Matsushita M, Hajiro K, Okazaki K, et al. Preoperative histological diagnosis of heterotopic pancreas. *Dig Dis Sci* 1999;44:552.
- Schmidt A, Meier B, Cahyadi O, et al. Duodenal endoscopic full-thickness resection (with video). *Gastrointest Endosc* 2015;82:728-33.
- Matsuda T, Hiki N, Nunobe S, et al. Feasibility of laparoscopic and endoscopic cooperative surgery for gastric submucosal tumors (with video). *Gastrointest Endosc* 2016;84:47-52.

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Colonoscopy adenoma detection rates: Room for cognitive load theory?



To the Editor:

Atkins et al¹ have done wonders in researching the factors responsible for variations in adenoma detection rates. They noted concerns related to which polyps to resect; a need for greater interprofessional teamwork, communication, and leadership; endoscopy room-based

TABLE 1. Aspects of cognitive load theory

Type of load	Description
Intrinsic	Educators can focus on information chunking or staging with movement from low to high complexity. Learners may work with their peers to problem solve. This may take the form of educating learners on examples of simple polyp-based cases (eg, hyperplastic polyps) and later more probing scenarios (eg, serrated).
Extraneous	Educators can offer learners completed problems either partially or fully; for example, cases that probe learners regarding which polyps to remove. Various information modalities can be provided such as visual/auditory (videos), which can be used as additional learning aids.
Germane	Information can be presented in random order (mixing of polyp case complexity, eg, low to high, high to low, high to high, low to low) to truly gauge knowledge retention.

distractions; withdrawal technique variations; polyp-type identification; operator fatigue; excessive case load with a pressure to complete on time; and variations in endoscopic meticulousness. Interventions aimed at improving these avenues included further training, optimization of the endoscopy environment, and incentive provision.

There has been movement toward cognitive load theory (CLT) in the field of medical education, and I wish to share this as a platform for intervention enhancement related specifically to training. As detailed in Table 1, CLT focuses on 3 aspects: (1) intrinsic load: the complexity of the information being learned; (2) extraneous load: the way the information is presented; and (3) germane load: the processing of the information so that learning can truly occur.²

Loading of information (cognitive load), if done inappropriately, has been shown to hinder learning through overconsumption of working memory.² How, therefore, can we ensure optimum cognitive load in relation to adenoma detection rates?²

Educators are pressured to ensure coverage of curricula without inducing information overload. Recognition of the importance of CLT is key to ensuring the development of the master learner.³ Evidence exists for its value in medical education, and its approach could prove useful in optimizing adenoma detection.

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REFERENCES

- Atkins L, Hunkeler EM, Jensen CD, et al. Factors influencing variation in physician adenoma detection rates: a theory-based approach for performance improvement. *Gastrointest Endosc* 2016;83:617-26.e2.
- Young JQ, Van Merriënboer J, Durning S, et al. Cognitive load theory: implications for medical education: AMEE guide No. 86. *Med Teach* 2014;36:371-84.
- Schumacher DJ, Englander R, Carraccio C. Developing the master learner: applying learning theory to the learner, the teacher, and the learning environment. *Acad Med* 2013;88:1635-45. <http://dx.doi.org/10.1016/j.gje.2016.03.1471>

Endoscopic transmural drainage versus combined transmural and transpapillary drainage in pseudocysts



To the Editor:

We read with interest the elegant multicenter study by Yang et al¹ in which they compared endoscopic transmural drainage (TMD) alone with combined transmural and transpapillary drainage (CD) in patients with pseudocysts. Pancreatic pseudocysts (PP) are invariably associated with pancreatic duct (PD) disruption, and TMD does not directly treat the PD disruption. Theoretically, bridging of the PD disruption by stenting would act synergistically and improve the treatment outcomes of transmural drainage. However, previous studies on this topic have yielded divergent results.^{2,3}

In this study in *Gastrointestinal Endoscopy*, the authors reported no difference in long-term symptom or radiologic resolution in patients who underwent TMD alone compared with those undergoing CD. Contrary to expectations, they found a negative association between attempting transpapillary drainage and radiologic resolution rates. However, this study included a heterogeneous group of patients, including patients with both acute and chronic pancreatitis; in addition, the PD disruption was not characterized as partial versus complete. This distinction is important because early removal of transmural stents in PD disruption can lead to recurrence of fluid collections, with recurrence rates being higher in chronic pancreatitis because of persistence of ductal abnormalities.⁴ Therefore, leaving transmural stents in place indefinitely has been suggested as one strategy for preventing recurrence in patients with complete PD disruption.⁵ Moreover, transpapillary drainage is more effective when the disruption is bridged by endoprosthesis,⁶ and in this study bridging stents were placed in only 36.2% of patients.

This study adds to the evidence supporting no difference in outcomes between CD and TMD in patients with PP. However, we believe that this perplexing problem would ideally be answered by a prospective, randomized study comparing CD with TMD alone in patients with PP and partial PD disruption in which the disruption has been bridged during transpapillary drainage.