

EUS-guided n-butyl-2-cyanoacrylate injection therapy for ruptured isolated left gastric artery pseudoaneurysm

Yusuke Hashimoto, Izumi Ohno, Hideaki Takahashi, Mitsuhiro Sasaki, Hiroshi Imaoka, Kazuo Watanabe, Kumiko Umemoto, Gen Kimura, Shuichi Mitsunaga, Masafumi Ikeda

Department of Hepatobiliary and Pancreatic Oncology, National Cancer Center Hospital East, Kashiwa City, Chiba Prefecture, Japan

Rupture visceral artery aneurysms (VAAs) are a life-threatening condition rarely occurring from left gastric artery accounting for 1%–4% of all VAAs.^{1,2} Selective angiography mostly allows to perform coil embolization of the VAA. Some case reports of endoscopic ultrasound (EUS)-guided injection therapy were successful as an alternative if angiography failed by small caliber vessel or short neck of pseudoaneurysm.^{3,4} We present a successful case of EUS-guided histoacryl injection for ruptured left gastric pseudoaneurysm.

A 55-year-old male was evaluated in admission for hematemesis. Computed tomography (CT) demonstrated saccular pseudoaneurysm through left gastric artery complicated by pancreatic pseudocyst [Figure 1a]. Endovascular therapy appeared inaccessible due to invisibly small-caliber feeder arteries of the pseudoaneurysm. After the informed consent, EUS was performed using linear echoendoscope (Olympus Tokyo Japan-GF-UCT260) for therapeutic embolization [Video 1]. After localizing the pseudoaneurysm, under color Doppler, super-thin feeder artery was visualized, and

shortest puncture route was identified [Figure 1b]. We used histoacryl (n-butyl-2-cyanoacrylate) for embolic materials. One empty 1 mL syringe filled with 1 mL histoacryl and another 1 mL syringe filled with 0.5 mL normal saline were prepared. Using Expect™ 22G needle (Boston Scientific, MA, United States), pseudoaneurysm was punctured, and blood was then drawn into the syringe followed by 1.0 mL normal saline injection. Subsequently, 1.0 mL histoacryl injection was performed, instantly followed by 0.5 mL normal saline flush, confirming the pseudoaneurysm become echogenic resulting in solidification [Figure 1c]. The needle was removed when no color filling was seen inside the pseudoaneurysm. CT revealed complete embolization of the pseudoaneurysm in 2 months [Figure 1d]. There was no further episode of bleeding during the follow-up.

Limitations of histoacryl instillation include the risk of distant thrombosis or allergic reactions,⁵ although

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

For reprints contact: reprints@medknow.com

How to cite this article: Hashimoto Y, Ohno I, Takahashi H, Sasaki M, Imaoka H, Watanabe K, et al. EUS-guided n-butyl-2-cyanoacrylate injection therapy for ruptured isolated left gastric artery pseudoaneurysm. *Endosc Ultrasound* 2019;8:58-9.

Video Available on: www.eusjournal.com

Access this article online

Quick Response Code:



Website:

www.eusjournal.com

DOI:

10.4103/eus.eus_109_17

Address for correspondence

Dr. Yusuke Hashimoto, Department of Hepatobiliary and Pancreatic Oncology, National Cancer Center Hospital East, 6-5-1 Kashiwanoha, Kashiwa City, Chiba Prefecture 277-8577, Japan. E-mail: yusuke.h914@gmail.com

Received: 2017-08-12; **Accepted:** 2017-10-19; **Published online:** 2018-03-12

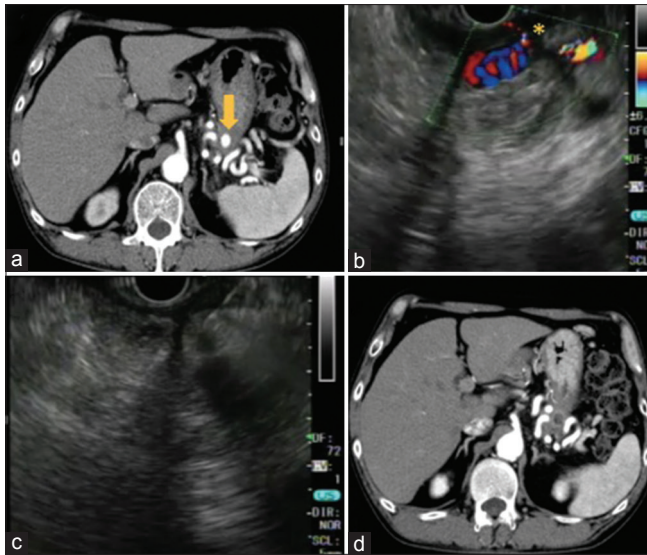


Figure 1. (a) Computed tomography scan showed left gastric artery pseudoaneurysm (yellow arrow) without any visible feeder artery in the gastric wall. (b) EUS targeted left gastric artery pseudoaneurysm from the posterior side of stomach. Small-caliber feeder artery(*) was identified on color Doppler. (c) 1.0 mL histoacryl was injected and became solidified in the pseudoaneurysm, instantly showing dense acoustic shadow on EUS. (d) Computed tomography scan revealed complete embolization of the pseudoaneurysm in 2 months

rare. The use of EUS-guided histoacryl injection provides a dynamic visualization of embolization of pseudoaneurysms in a real time. This report highlights the potential role of successful EUS-guided histoacryl embolization of pseudoaneurysm when inaccessible angiographically.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient has given his consent for his images and other clinical information to be reported in the journal. The patient understands that his name and initial will not be published and due efforts will be made to conceal his identity, but anonymity cannot be guaranteed.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

REFERENCES

1. Sandstrom A, Jha P. Ruptured left gastric artery aneurysms: Three cases managed successfully with open surgical repair. *Ann Vasc Surg* 2016;36:296.e9-296.e12.
2. Murata S, Tajima H, Abe Y, *et al.* Successful embolization of the left gastric artery aneurysm obtained in preoperative diagnosis: A report of 2 cases. *Hepatogastroenterology* 2007;54:1895-7.
3. Gamanagatti S, Thingujam U, Garg P, *et al.* Endoscopic ultrasound guided thrombin injection of angiographically occult pancreatitis associated visceral artery pseudoaneurysms: Case series. *World J Gastrointest Endosc* 2015;7:1107-13.
4. Roberts KJ, Jones RG, Forde C, *et al.* Endoscopic ultrasound-guided treatment of visceral artery pseudoaneurysm. *HPB (Oxford)* 2012;14:489-90.
5. ASGE Technology Committee, Bhat YM, Banerjee S, *et al.* Tissue adhesives: Cyanoacrylate glue and fibrin sealant. *Gastrointest Endosc* 2013;78:209-15.