

# LAMS for symptomatic hepatic cysts: beyond the boundary



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Hepatic cysts are generally found incidentally on imaging studies. They are usually asymptomatic but can sometimes be associated with serious complications. As opposed to smaller cysts, larger cysts are more likely to result in symptoms from complications such as hemorrhage, rupture, infection, or compression of the biliary tree [1–3].

Regarding symptomatic hepatic cysts, there are three common procedures which can either decrease the cyst size or even remove the cyst altogether. These procedures include percutaneous aspiration, laparoscopic deroofing, and complete cyst excision [1–3].

Percutaneous aspiration can be performed on its own or alongside sclerosing agents such as alcohol or minocycline hydrochloride. On its own, percutaneous aspiration does not prevent recurrence. With the help of a sclerosing agent, the recurrence rate is decreased significantly. This method is safe and minimally invasive. Therefore, this approach is generally considered first-line treatment [1–3]. If percutaneous aspiration is not a viable option or has not provided the patient with the desired outcome, deroofing can be performed laparoscopically. There is a much lower recurrence rate for this method with the downside of higher morbidity. Complete cyst excision or hepatectomy is the last line of treatment options [1–4]. These options are more radical and should only be performed if necessary.

In this month issue of EIO [5], D'Errico et al. described the feasibility of EUS-guided transmural drainage with lumen apposing metal stent (LAMS) for symptomatic hepatic cysts. This case series involved 13 consecutive patients. Overall short-term

recurrence was rare. Even though the main purpose of the cysts' drainage for patients in this study was to achieve decompression and symptoms' control rather than complete cysts resolution and at an average follow up of 10 months, none of the patients presented with recurrence showing that treatment of the inner lining epithelium was not necessary. Because hepatic cyst has an inner lining epithelium secreting fluid content, simple drainage may be not work for complete resolution of hepatic cyst compared to pancreatic pseudocyst without inner epithelial mucosa. Therefore, the removal of LAMS with pig-tail stent change may be considered for permanent stent placement in patients with symptomatic hepatic cysts. In this reason, EUS-guided or percutaneous drainage with ethanol lavage for ablation of the lining epithelium in inner hepatic cyst has been reported [4]. Further study on comparing EUS-guided ethanol lavage and EUS-guided transmural drainage with LAMS for symptomatic hepatic cysts would be of interest.

Authors have stated that LAMS were left in situ in patients with severe comorbidities or advanced age. However, this pilot study has relatively short-term follow-up periods. In general practice with LAMS for pancreatic pseudocysts, it is recommended that all LAMS should be removed as far as possible within 4 weeks to avoid delayed adverse events such as tissue impaction, and bleeding [6]. In this study, LAMS was usually left in place indefinitely as the same principle of gallbladder drainage with LAMS for patients unfit for surgery [7]. However, contrast to gallbladder, LAMS can erode into the liver parenchyma producing delayed AEs such as bleeding, or biliary fistulae during

long-term indwelling of LAMS. Therefore, further long-term follow-up larger study on this issue may be required.

In terms of location of hepatic cysts, all large symptomatic hepatic cysts may not be feasible for EUS-guided transmural drainage with LAMS. However, if symptomatic hepatic cysts in a right liver are abutted to gastric or duodenal wall, in this circumstance, LAMS may be more favored than a tubular type of a covered metal stent in following reasons. The low body and antrum of the stomach has strong peristaltic movement, and the collapse of hepatic cysts in a right liver may be far away from gastric or duodenal tract after EUS-guided drainage of hepatic cysts with a tubular covered metal stent. These factors may affect a potential migration of a tubular stent after EUS-guided transmural drainage for symptomatic hepatic cysts in a right liver. Therefore, further evaluation of efficacy on EUS-guided transmural drainage with LAMS versus tubular covered metal stent for symptomatic hepatic cysts according to the location of hepatic cysts may be needed.

With enthusiastic expanding indication of LAMS, this pilot study on EUS-guided transmural drainage with LAMS for symptomatic hepatic cysts may be a first and clinically meaningful step for beyond the boundary of routine practice. Further larger multicenter prospective study on EUS-guided transmural drainage with LAMS for symptomatic hepatic cysts may be warranted for the validation of this study.

## Competing interests

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The author declares that he has no conflict of interest.

## References

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- [1] Bernshteyn MA, Masood U. Hepatic Cyst. 2022 StatPearls. Treasure Island (FL).
- [2] Mavilia MG et al. Differentiating Cystic Liver Lesions: A Review of Imaging Modalities, Diagnosis and Management. *J Clin Transl Hepatol* 2018; 6: 208–216
- [3] Martinez OC et al. Biliary cysts in adults. 26 years experience at a single center. *Ann Med Surg* 2016; 11: 29–31
- [4] Lee S et al. Ethanol lavage of huge hepatic cysts by using EUS guidance and a percutaneous approach. *Gastrointest Endosc* 2014; 80: 1014–1021
- [5] D'Errico X et al. EUS guided Endoscopic Internal Drainage with Lumen Apposed Metal Stent of symptomatic hepatic cysts. A case series (with video). *Endosc Int Open* 2023; 11: 76–80
- [6] Guo J et al. A multi-institutional consensus on how to perform endoscopic ultrasound-guided peri-pancreatic fluid collection drainage and endoscopic necrosectomy. *Endosc Ultrasound* 2017; 6: 285–291
- [7] James TW, Baron TH. EUS-guided gallbladder drainage: A review of current practices and procedures. *Endosc Ultrasound* 2019; 8: S28–S34