

Zhuan Liao, MD
Yang-Yang Qian, MD
Zhen-Hua Zhao, MD
Zhao-Shen Li, MD

*Department of Gastroenterology
Changhai Hospital
Second Military Medical University
Shanghai, China*

REFERENCES

1. de Miquel-Yanes JM, García-Cano J, Jiménez-García R, et al. Post-ERCP pancreatitis in patients with type 2 diabetes mellitus. *Gastrointest Endosc* 2018;87:321.
2. Hart PA, Bellin MD, Andersen DK, et al. Type 3c (pancreatogenic) diabetes mellitus secondary to chronic pancreatitis and pancreatic cancer. *Lancet Gastroenterol Hepatol* 2016;1:226-37.
3. de Miguel-Yanes JM, Méndez-Bailón M, Jiménez-García R, et al. Tendencies and outcomes in endoscopic biliary sphincterotomies among people with or without type 2 diabetes mellitus in Spain, 2003-2013. *Rev Esp Enferm Dig* 2016;108:386-93.
4. Zhao ZH, Hu LH, Ren HB, et al. Incidence and risk factors for post-ERCP pancreatitis in chronic pancreatitis. *Gastrointest Endosc* 2017;86:519-24.e1.
5. Woodmansey C, McGovern AP, McCullough KA, et al. Incidence, demographics, and clinical characteristics of diabetes of the exocrine pancreas (type 3c): a retrospective cohort study. *Diabetes Care*. Epub 2017 Aug 31.
6. Bellin MD, Whitcomb DC, Abberbock J, et al. Patient and disease characteristics associated with the presence of diabetes mellitus in adults with chronic pancreatitis in the United States. *Am J Gastroenterol* 2017;112:1457-65.

<http://dx.doi.org/10.1016/j.gie.2017.09.010>

Can a multidisciplinary approach improve the care of patients with benign biliary strictures?



To the Editor:

We read with great interest the article by Hu et al¹ in which the authors provide consensus guidelines for the management of benign biliary strictures. They highlight the role of endoscopic therapy, recommending ERCP as a first-line option in cases with an accessible papilla while acknowledging the roles of percutaneous intervention in patients with an inaccessible papilla and surgery in cases of failed ERCP. This suggests the importance of a multidisciplinary approach to the treatment of patients with benign biliary stenosis. However, recommendations about multidisciplinary discussion of such cases are lacking in their document.¹ In different fields of medicine, it has been shown that multidisciplinary team discussion may result in an improvement in clinical outcome:^{2,3} an approach that appears to also have the potential to improve the care of patients with benign biliary stenosis. As reported by Hu et al,¹ experienced endoscopists can now achieve good clinical results even in challenging situations in which patients have variant anatomy. Similarly, interventional radiologists are also able to

manage complex scenarios (such as patients with a nondilatated biliary tree), providing successful results also in cases refractory to standard treatment.^{4,7} Percutaneous insertion of biodegradable stents is an example of such an intervention and has been reported as a successful and safe treatment in multicentric studies, with the advantage of not only providing durable results but also reducing invasiveness because no long-lasting catheters or multiple interventions are required with this approach.^{6,8}

In light of this, the acknowledgement by the scientific community of the importance of a multidisciplinary approach in the treatment of patients with benign biliary strictures is strongly advocated. Such an approach would guarantee that each patient is offered the best option for cure, tailored case by case to the specific needs of the individual.

DISCLOSURE

All authors disclosed no financial relationships relevant to this publication.

Luca Nicosia, MD

*Postgraduate School of Radiology
Università degli Studi di Milano
Milan, Italy*

Christine Cannataci

Kelvin Cortis

*Medical Imaging Department
Mater Dei Hospital
Malta*

Giovanni Mauri

*Department of Interventional Radiology
European Institute of Oncology
Milan, Italy*

REFERENCES

1. Hu B, Sun B, Cai Q, et al. Asia-Pacific consensus guidelines for endoscopic management of benign biliary strictures. *Gastrointest Endosc* 2017;86:44-58.
2. Prades J, Borras JM. Shifting sands: adapting the multidisciplinary team model to technological and organizational innovations in cancer care. *Future Oncol* 2014;10:1995-8.
3. Shah S, Arora S, Atkin G, et al. Decision-making in colorectal cancer tumor board meetings: results of a prospective observational assessment. *Surg Endosc* 2014;28:2783-8.
4. Mauri G, Sconfienza LM. Postsurgical biliary complications: the increasingly important role of interventional radiologists. *Cardiovasc Intervent Radiol* 2016;39:1224-5.
5. Pedicini V, Poretti D, Mauri G, et al. Management of post-surgical biliary leakage with percutaneous transhepatic biliary drainage (PTBD) and occlusion balloon (OB) in patients without dilatation of the biliary tree: preliminary results. *Eur Radiol* 2010;20:1061-8.
6. Mauri G, Michelozzi C, Melchiorre F, et al. Benign biliary strictures refractory to standard bilioplasty treated using polydioxanone biodegradable biliary stents: retrospective multicentric data analysis on 107 patients. *Eur Radiol* 2016;26:4057-63.

7. Mauri G, Michelozzi C, Melchiorre F, et al. Biodegradable biliary stent implantation in the treatment of benign bilioplastic-refractory biliary strictures: preliminary experience. *Eur Radiol* 2013;23:3304-10.
 8. Mauri G, Criado E. Percutaneous management of benign biliary strictures: is it time to focus on reducing procedure invasiveness? *J Vasc Interv Radiol* 2016;27:934-6.
- <http://dx.doi.org/10.1016/j.gie.2017.09.003>



Response:

We thank Nicosia and colleagues¹ for their comments on our article “Asia-Pacific consensus guidelines for endoscopic management of benign biliary strictures.”² In that article, we highlighted the importance of a multidisciplinary approach to the management of benign biliary strictures (BBSs), not only in the diagnosis but in the treatment as well.² The selection of treatment approaches to BBSs depends on the clinical setting, the patient’s condition and willingness, and the availability of expertise, which mandate a multidisciplinary discussion among different specialties aimed at providing a patient with the appropriate treatment and the most optimal outcome. As a result, we discussed the role of endoscopic treatment, and of radiologic and surgical intervention in an evidence-based approach, which indicated the necessity of a multidisciplinary discussion among endoscopists, radiologists, and surgeons.

The goal of treatment for BBSs is to obtain long-term bile duct patency, which usually requires long-term (up to 12 months) stent placement; repeated procedures for stent exchange, especially when multiple biliary plastic stents are deployed; and stent removal at the end of treatment. This makes endoscopic management currently the first-line option for most BBS patients with accessible papillae.^{3,4} Percutaneous biliary interventions are generally reserved for cases in which ERCP fails or cannot be performed.⁵ In difficult or selected cases, such as complete biliary obstruction or when a single-treatment approach fails, combined treatment with endoscopic and percutaneous intervention (eg, rendezvous technique) with or without some novel techniques (eg, magnetic compression anastomosis) may be required before surgery is considered.^{6,7} To achieve the goal of successful combined treatment, a multidisciplinary discussion is also inevitable in clinical practice.

Biodegradable stent placement has recently been reported, mostly in preliminary case studies, in patients with BBSs through an endoscopic or a percutaneous approach.^{8,9} In their letter, Nicosia et al¹ suggest that percutaneous insertion of biodegradable stents is a successful and safe treatment according to the results from multicentric studies. However, the multicenter study referred to by Nicosia et al¹ was retrospectively designed and focused only on the midterm outcome of percutaneous biodegradable stent placement in the treatment of BBSs that was refractory to standard bilioplasty.⁹ Although this

technique appears attractive for BBSs because it theoretically does not require a long-lasting catheter placement, stent migration (2%, 2/107 cases), stricture recurrence (18%, 19/97 cases) with subsequent cholangitis (84.2%) and choledocholithiasis (26.3%) were also reported in the multicenter study,⁹ requiring reintervention and therefore multiple procedures. In addition, biodegradable stents are currently not widely available, and large-scale, well-designed clinical trials are lacking to confirm its effectiveness, long-term outcome, safety, and cost effectiveness in the management of BBSs. As a result, biodegradable stent placement currently cannot be recommended as a routine practice either through ERCP or through percutaneous intervention in the treatment of BBSs.

DISCLOSURE

All authors disclosed no financial relationships relevant to this publication.

Bing Hu, MD, PhD
Bo Sun, MD

Department of Gastroenterology and Endoscopy
Eastern Hepatobiliary Hospital
Second Military Medical University
Shanghai, China

REFERENCES

1. Nicosia L, Cannataci C, Cortis K, et al. Can a multidisciplinary approach improve the care of patients with benign biliary strictures? *Gastrointest Endosc* 2018;87:322-3.
2. Hu B, Sun B, Cai Q, et al. Asia-Pacific consensus guidelines for endoscopic management of benign biliary strictures. *Gastrointest Endosc* 2017;86:44-58.
3. Kuroda Y, Tsuyuguchi T, Sakai Y, et al. Long-term follow-up evaluation for more than 10 years after endoscopic treatment for postoperative bile duct strictures. *Surg Endosc* 2010;24:834-40.
4. Weber A, Zellner S, Wagenpfeil S, et al. Long-term follow-up after endoscopic stent therapy for benign biliary strictures. *J Clin Gastroenterol* 2014;48:88-93.
5. Lastovickova J, Peregrin J. Biliary strictures after orthotopic liver transplantation: long-term results of percutaneous treatment in patients with nonfeasible endoscopic therapy. *Transplant Proc* 2012;44:1379-84.
6. Jang SI, Rhee K, Kim H, et al. Recanalization of refractory benign biliary stricture using magnetic compression anastomosis. *Endoscopy* 2014;46:70-4.
7. Jang SI, Choi J, Lee DK. Magnetic compression anastomosis for treatment of benign biliary stricture. *Dig Endosc* 2015;27:239-49.
8. Siiki A, Rinta-Kiikka I, Sand J, et al. Endoscopic biodegradable biliary stents in the treatment of benign biliary strictures: first report of clinical use in patients. *Dig Endosc* 2017;29:118-21.
9. Mauri G, Michelozzi C, Melchiorre F, et al. Benign biliary strictures refractory to standard bilioplasty treated using polydioxanone biodegradable biliary stents: retrospective multicentric data analysis on 107 patients. *Eur Radiol* 2016;26:4057-63.

<http://dx.doi.org/10.1016/j.gie.2017.09.017>