

A tight esophageal stricture secondary to a misplaced band and its management

Ida Hilmi¹, Khean Lee Goh¹, Mohamed Hasmoni Hadzri²

(1) Division of Gastroenterology, University Malaya Medical Centre, Kuala Lumpur, Malaysia ; (2) Department of Internal Medicine, Kulliyah of Medicine, International Islamic University Malaysia, Kuantan, Pahang, Malaysia.

To the Editor,

Here we report a case of a tight esophageal stricture and our subsequent management, in particular highlighting the use of very flexible guidewires and biliary balloons.

A 74 year old woman initially presented to a private hospital with hematemesis. Esophagogastroduodenoscopy (EGD) revealed esophageal varices which were subsequently banded with a multiband shooter. Further investigations confirmed that she had chronic hepatitis B cirrhosis with portal hypertension. Hemostasis was achieved and she was discharged. Four months later she presented again with complaints of progressive dysphagia. A barium swallow revealed a tight stricture at the level of the aortic knuckle with eventual filling of the stomach. She was then referred to our hospital, which is a tertiary center, for further management.

Subsequent EGD revealed a pinhole stricture at 20 cm (Fig. 1). A Savary-Gilliard metallic guidewire could not pass through the stricture but a 0.035 inch biliary guidewire (Jagwire) was successfully passed under fluoroscopic guidance. An attempt was made initially to pass a 5 mm Savary-Gilliard bougie dilator but we were unable to traverse the stricture. Finally, biliary balloon dilators over the wire were used. Max Force biliary balloons, a 4 mm/12F balloon (Fig. 2) followed by a 5 mm/12F balloon were both dilated to 12 Atm (atmosphere) and lastly the Quantum biliary dilation catheter 8 mm/24F was dilated to 120 Psi/8Atm. Distal to the stricture, columns of Grade 1 esophageal varices were noted but the mucosa was entirely normal. The stomach and duodenum were also normal.

At repeat EGD, further dilatation was performed although this time a Savary-Gilliard guidewire was able to pass through. The stricture was dilated using graduated Savary-Gilliard bougie dilators of 5 mm, 7 mm and 9 mm. Meanwhile, investigations for other causes of the esophageal stricture were normal. She required two further sessions of dilatation with the Savary-Gilliard dilators before the stricture resolved completely. Six months after her initial presentation, she remained symptom free.

The role of endoscopic variceal ligation (EVL) in acute variceal bleeding and secondary prophylaxis is well established (1,2) and there is increasing evidence for its use in primary prophylaxis (3). Although, the develop-



Fig. 1. — Pinhole esophageal stricture at 20 cm from incisors.

ment of an esophageal stricture is a recognized complication, the risk for this complication is significantly lower when EVL is compared to endoscopic sclerotherapy (1,2). A meta-analysis comparing EVL vs sclerotherapy found that the odds ratio for developing an esophageal stricture was 0.10 (0.03 to 0.29) in patients who underwent EVL (2). Therefore, this case is unusual not only because it is a rare complication of the procedure but also because of the severity of the stricture which initially did not even allow the passage of a Savary-Gilliard guidewire. The most likely explanation was that there was suction of the submucosa as well as the muscularis propria by an inexperienced endoscopist.

Correspondence to : Assistant Profesor Dr. Mohamed Hasmoni Hadzri, Department of Internal Medicine, Kulliyah of Medicine, International Islamic University Malaysia, Bandar Indera Mahkota, Kuantan 25200, Pahang, Malaysia. E-mail : hadzrihasmoni@yahoo.com / hadzri@iiu.edu.my

Submission date : 22/06/2011

Acceptance date : 10/07/2011

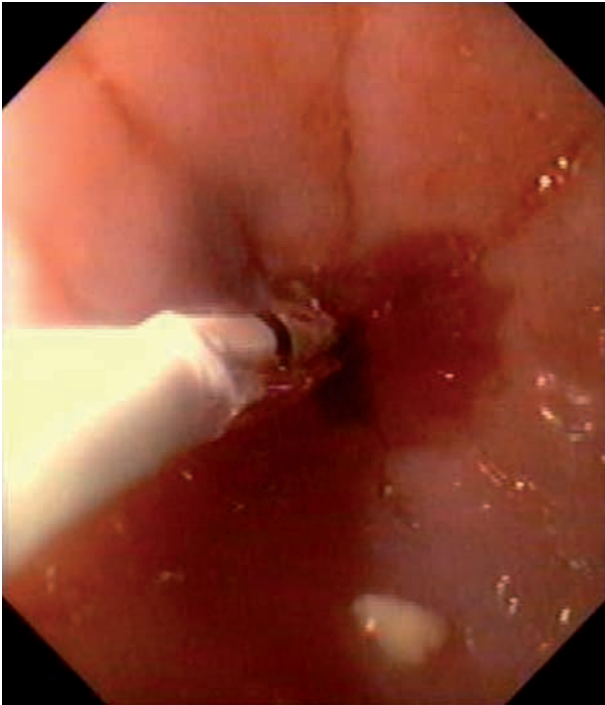


Fig. 2. — Dilatation of the esophageal stricture using a 4 mm/12F Max Force TTS biliary balloon (Boston Scientific) over a 0.035 inch Jagwire.

The location of the stricture at 20 cm from the incisors was presumably due to the band being inappropriately placed too high in the esophagus.

The use of a very flexible guidewires (VFG) in the management of esophageal strictures has been described in several studies (4,5). In these studies, due to the difficulty in passing rigid push type dilators such as the

Savary-Gilliard over the VFG, an exchange of guidewires from the VFG to the more rigid metallic guidewires were carried out. In our case, however, an exchange of guidewires would not have been possible due to the severity of the stricture, so we therefore had to resort to using biliary through the scope (TTS) balloons over the VFG instead.

In conclusion, we present a case of a severe high esophageal stricture as an unusual complication of EVL. This was successfully managed with the initial use of biliary balloons over a flexible biliary guidewire before proceeding to dilatation with the standard esophageal bougies. We feel that the use of a flexible guidewire and biliary balloon in the first instance is a safer approach for this type of stricture. Also, this case highlights that EVL is not an entirely safe procedure and should still be carried out by experienced endoscopists.

References

1. GIMSON A.E., RAMAGE J.K., PANOS M.Z., HAYLLAR K., HARRISON P.M., WILLIAMS R. *et al.* Randomised trial of variceal banding ligation versus injection sclerotherapy for bleeding oesophageal varices. *Lancet*, 1993, **342** : 391-4.
2. LAINE L., COOK D. Endoscopic ligation compared with sclerotherapy for treatment of esophageal variceal bleeding. A meta-analysis. *Ann. Intern. Med.*, 1995, **123** : 280-7.
3. KHUROO M.S., KHUROO N.S., FARAHAT K.L., KHUROO Y.S., SOFI A.A., DAHAB S.T. Meta-analysis : endoscopic variceal ligation for primary prophylaxis of oesophageal variceal bleeding. *Aliment Pharmacol. Ther.*, 2005, **21** : 347-61.
4. PANK-VARGAS L., OVALLE L., FERNANDEZ C., MELLA B., ESTAY R., DEL SOLAR M.P. *et al.* Use of a very flexible guidewire to permit dilation of complex malignant strictures of the esophagus. *Gastrointest. Endosc.*, 1995, **41** : 8-10.
5. PARASHER V.K. A novel approach to facilitate dilation of complex non-traversable esophageal strictures by efficient wire exchange using a stent pusher. *Gastrointest. Endosc.*, 2000, **51** : 730-1.