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## Scientific letters

### Laparoscopic Myotomy After Transjugular Intrahepatic Portosystemic Shunt Placement and Embolization of Gastroesophageal Varices in Patients With Achalasia and Cirrhosis<sup>☆</sup>



### Miotomía laparoscópica tras derivación portosistémica intrahepática transyugular y embolización de varices gastroesofágicas en paciente con acalasia y cirrosis

Patients with cirrhosis and portal hypertension have greater associated surgical morbidity and mortality compared to the general population, so adequate pre- and postoperative management is necessary, in addition to careful surgical technique. These individuals present a higher tendency for intra- and postoperative bleeding as well as a high risk for developing ascites, encephalopathy, infections, kidney failure, and respiratory or surgical wound complications.<sup>1</sup> The use of laparoscopy has been shown to reduce postoperative complications in these patients.<sup>2</sup> Furthermore, some authors have proposed the placement of a transjugular intrahepatic portosystemic shunt (TIPS) before surgery to partially decompress the portal system and reduce postoperative morbidity.<sup>3,4</sup> We present the case of a patient with achalasia and gastroesophageal varices due to alcoholic cirrhosis in whom a TIPS was inserted preoperatively and varices were embolized, with subsequent laparoscopic fundoplication and Heller myotomy.

The patient is a 66-year-old male diagnosed in 2007 with Child–Pugh class B alcoholic cirrhosis who, after having abstained from alcohol use since then, was classified as Child–Pugh class A in 2015 at the time of surgery. Until 2010, he suffered several episodes of ascitic decompensation, afterwards showing stability in his cirrhosis. Concomitantly and since 2012, he reported progressive dysphagia, and in the weeks prior to surgery he presented daily regurgitations, daily retrosternal pain, intolerance to solids, intermittent tolerance to liquids and weight loss of 6 kg, obtaining an

Eckardt score of 10. After endoscopic, manometric and radiological studies, he was diagnosed with type II achalasia, showing varices in the distal third of the esophagus and gastric fundus.

Once the different treatment options were evaluated with the patient and gastroenterology department, we agreed to perform laparoscopic myotomy after embolization of the varices and TIPS placement.

Six weeks after the TIPS placement, and after having verified its correct function, a laparoscopic Heller myotomy was performed. Intraoperative endoscopy verified the total integrity of the esophageal mucosa and the adequate quality of the myotomy. Last of all, a Dor fundoplication was conducted in association with cholecystectomy due to symptomatic cholelithiasis. The patient was discharged with no complications on the 4th day post-op. During a 6-month follow-up, the patient has been asymptomatic and has presented no dysphagia.

Achalasia is a primary motor disorder of the esophagus that manifests with dysphagia due to altered peristalsis of the esophageal body and lack of relaxation of the inferior esophageal sphincter. Its incidence is 0.5–1 patient per 100 000 persons/year. Its incidence is unknown in patients with cirrhosis and gastroesophageal varices, although it is probably very low as we have only found another 5 cases published in the English literature.

The current treatment of achalasia is controversial. On the one hand, endoscopic techniques are available, such as the

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injection of botulinum toxin or balloon dilation. Ultrasound-guided endoscopic injection of botulinum toxin is a temporary treatment, with a therapeutic failure rate higher than 50% after 6–12 months. Although endoscopic dilation may obtain cure rates of up to 90% in the first year, the long-term results are poor.<sup>5</sup> On the other hand, surgery is the treatment of choice in patients who do not present contraindications, as it is the most effective treatment in the long term and obtains satisfactory results in the first year in up to 93% of patients. Recently, the *Peroral Endoscopic Myotomy* (POEM) technique has been described, which seems to be as effective as surgery in the short term. Even so, the procedure is expensive, complex, difficult to reproduce, and no long-term results have been published. Furthermore, it presents a high incidence of gastroesophageal reflux as it is not associated with an anti-reflux procedure.

In our case, we opted for surgical treatment because the patient expressed the desire to receive a treatment that would be effective in the long term, and also because endoscopic dilation could cause bleeding that would not be easily controlled. There are few published cases that describe the surgical treatment of achalasia in patients with gastroesophageal varices due to portal hypertension.<sup>6–9</sup> In general, they advocate the repeated injection of botulinum toxin.

Even though the placement of a TIPS before major abdominal surgeries has been reported previously,<sup>3,4</sup> to date there have been only a few anecdotal cases in which a TIPS has been used prior to endoscopic treatment<sup>7</sup> or a Heller myotomy has been done with no preoperative measures.<sup>9</sup>

The use of TIPS may be controversial as it is a technique that is not free of risks. Currently, after the introduction of coated stents, the incidence of encephalopathy *de novo* or worsening of the prior pathology is 20%–31%, with a 2-year rate of stenosis of 24%–44%.<sup>10</sup> Regardless of other indications for the use of TIPS, according to case series its preoperative use should be restricted to patients with adequate liver function.

In short, we believe that the strategy combining the placement of a TIPS with the preoperative embolization of gastroesophageal varices could minimize the risk of intraoperative (bleeding) and postoperative (ascitic decompensation) complications in the surgery of patients with achalasia and esophageal varices, although currently this technique has not been scientifically proven.

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Unai de Andres Olabarria\*, Soledad Ugarte Sierra, Roberto Maniega Alba, Igor Alberdi San Roman, Francisco Javier Ibáñez Aguirre

Servicio de Cirugía General y Digestiva, Hospital de Galdakao-Usansolo, Galdakao, Vizcaya, Spain

\*Corresponding author.

E-mail addresses: [deandres19@hotmail.com](mailto:deandres19@hotmail.com), [UNAI.DEANDRESOLABARRIA@osakidetza.net](mailto:UNAI.DEANDRESOLABARRIA@osakidetza.net) (U. de Andres Olabarria).

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