

Symptoms are variable: from no symptoms to discomfort in the right hypochondrium or acute abdomen.

The degree of diagnostic error by imaging techniques is higher than 90%,⁴ so it is therefore difficult to make a correct preoperative diagnosis. The differential diagnosis should include: focal nodular hyperplasia, hemangioma, hepatocarcinoma, adenoma, metastasis of endocrine or renal tumours, etc.

Standard treatment is radical surgery, both for the primary tumour as well as local recurrence or distant metastasis. The role of chemotherapy and radiotherapy is uncertain; these therapies are often considered in cases of locally advanced disease, local recurrence or distant metastasis, although their results are arguable.^{1,2,4}

The prognosis is difficult to establish because of the lack of understanding about the biological behaviour of these tumours and the variety of results in the few studies published. According to some authors, size >5 cm, mitotic rate >1/50 HPF, necrosis, cells with nuclear pleomorphism, infiltrating growth or high nuclear grade are considered factors for poor prognosis and associated with more aggressive tumour behaviour, recurrence and/or distant metastasis.² Folpe^{1,6} proposed a classification based on these criteria: (a) benign, if there are none of the former parameters; (b) uncertain biological potential, if only size >5 cm or giant cells with nuclear pleomorphism are found; and (c) malignant, with more than 2 criteria for poor prognosis.

In our patient, the lesion was classified as having an uncertain diagnosis, and the case was presented at a multidisciplinary committee meeting for gastrointestinal tumours, at which time close follow-up of the patient was decided upon.

As stated by Khaja,⁵ we believe that, in cases of space-occupying lesions of the liver with uncertain radiological diagnosis, the treatment of choice is resection with free margins.

Conflict of Interests

The authors declare no conflict of interests.

REFERENCES

1. Cuevas Herrero Ó, Escobar Lezcano L, Rodríguez Blaco M, Artigas Raventós V. PEComa, un raro tumor de células epitelioides. *Cir Esp.* 2015;93:e65–7.
2. Navarro-Pelayo Lainez MM, Ramos Font C, Rebollo Aguirre AC, Rodríguez Fernández A, Llamas Elvira JM. Tumor epiteloide perivascular uterino. Utilidad de la tomografía por emisión de positrones con ¹⁸F-fluorodesoxiglucosa en su estadificación y seguimiento. *Rev Esp Med Nucl.* 2010;29:258–62.
3. Domínguez-González M, Coronel Villarán MJ, Rubio Garrido J, Holgado Fernández A, Herreros López JA, Martín Gutiérrez A. Tumor de células epitelioides perivasculares en cuerpo uterino asociado a complejo de esclerosis tuberosa en mujer de 18 años. *Prog Obstet Ginecol.* 2013;56:147–50.
4. Sánchez Pérez B, Suárez Muñoz MA, Aranda Narváez JM, Fernández Aguilar JL, Santoyo Santoyo J. Tumor de células epitelioides perivasculares (PEComa) hepático. *Cir Esp.* 2009;85:184–6.
5. Khaja F, Carilli A, Baidas S, Sriharan A, Nordford S. PEComa: a perivascular epithelioid cell tumor in the liver – a case report and review of literatura. *Case Rep Med.* 2013;2013:1–4.
6. Folpe AL, Mentzel T, Lehr H-A, Fisher C, Balzer B, Weiss SW. Perivascular epithelioid cell neoplasms of soft tissue and gynecologic origin. *Am J Surg Pathol.* 2005;29:1558–75.

Martina Arribas Jurado^{a,*}, Ivía Revollo^a,
Alejandro Rubio Fernández^b, Francisco Galeano Díaz^a,
Gerardo Blanco Fernández^a

^aServicio de Cirugía Hepatobiliopancreática y Trasplante Hepático, Hospital Infanta Cristina, Badajoz, Spain

^bServicio de Anatomía Patológica, Hospital Infanta Cristina, Badajoz, Spain

*Corresponding author.

E-mail address: marribasj85@gmail.com (M. Arribas Jurado).

2173-5077/

© 2014 AEC. Published by Elsevier España, S.L.U. All rights reserved.

Migration and Perforation of a Gastric Band in the Small Bowel[☆]

Migración y perforación de una banda gástrica en el intestino delgado

Laparoscopic adjustable gastric banding (LAGB) is a safe and reversible procedure that entails low mortality and morbidity (approximately 0.05% and 11.3%, respectively).¹ Even so, it has

a high readmission and revision surgery rate of 52%.¹ Late-onset postoperative complications are frequent and are probably not completely documented. Erosion and migration

[☆] Please cite this article as: Oppliger F, Ríos H, Manríquez L. Migración y perforación de una banda gástrica en el intestino delgado. *Cir Esp.* 2015;93:601–603.

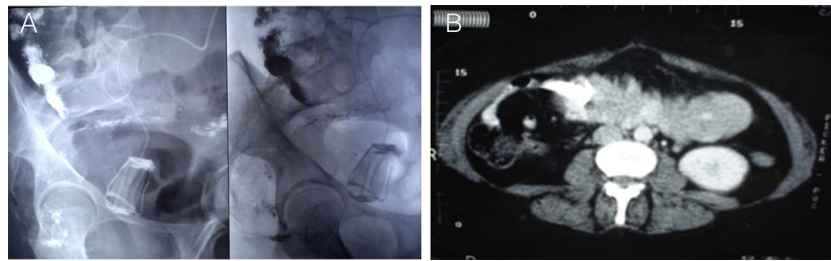


Fig. 1 – (A) Fluoroscopy demonstrating the gastric band in the area of the right iliac fossa; (B) cross-sectional CT scan of the abdomen and pelvis showing the gastric band within the intestinal lumen.

of gastric bands have an incidence of 0.6%–3%.¹ We present a rare case of gastric band erosion through the stomach and later migration towards the ileum, while causing several bowel perforations.

The patient is a 51-year-old woman with a history of morbid obesity who had undergone a LAGB procedure one year before and had lost 25 kg with 2 adjustments. She had sought treatment at the emergency room of another hospital due to diffuse abdominal pain and bilious vomiting. Analyses showed amylase 4000 mg/dL and lipase 1100 mg/dL; the patient was diagnosed with acute pancreatitis, which was classified as Balthazar B on computed tomography (CT) scan of the abdomen and pelvis with oral and intravenous (iv) contrast. The patient was immediately treated with NPO, intravenous hydration and analgesia; partial response was observed, but the abdominal pain and vomiting continued. An upper gastrointestinal series demonstrated a herniated fundus, and the gastric band was not visualised. She was finally transferred to our centre.

The patient continued to have abdominal pain, with no peritoneal irritation. Amylase and lipase levels were normal, but C-reactive protein was 21 mg/L and leukocytes 13 200/mm³. Upper gastrointestinal endoscopy detected a large ulcerated lesion with a foreign object in the area of the fundus and proximal antrum, which was the connector tube of the gastric band. Under fluoroscopy, contrast medium was injected into the pouch, which showed evidence of migration of the band

to the right iliac fossa. Another abdominal/pelvic CT scan with contrast revealed the intraluminal position of the band (Fig. 1).

Surgery was indicated, so we carried out exploratory laparoscopy, which revealed the connector tube penetrating the gastric wall. The gastric band, however, could not be located, so the procedure was converted to open surgery. While exploring the cavity, multiple small bowel perforations were detected and the band was finally found 20 cm from the ileocecal valve. We resected 40 cm of the ileum, which was reconstructed with an end-to-end anastomosis (Fig. 2). Post-operative recovery was uneventful.

Long-term complications of gastric bands include port and connector problems, reflux, pouch dilation, prolapse, oesophageal dilatation and erosion. These often lead to revision surgeries that result in the withdrawal of the band and patient rejection of the technique.

Band erosion and intragastric migration are feared complications that persist as long as the band is installed. Proposed causes are related to subclinical gastric lesions at the time of placement, overly tight closure, elevated internal pressure after the ingestion of very large food quantities, and abnormal reaction of the tissue in contact with the prosthesis.²

In the literature, there are 8 case reports of band migration towards the small bowel, one of which presented perforations.²⁻⁹ There have also been cases in which the connector tube becomes disconnected and perforates the intestinal wall

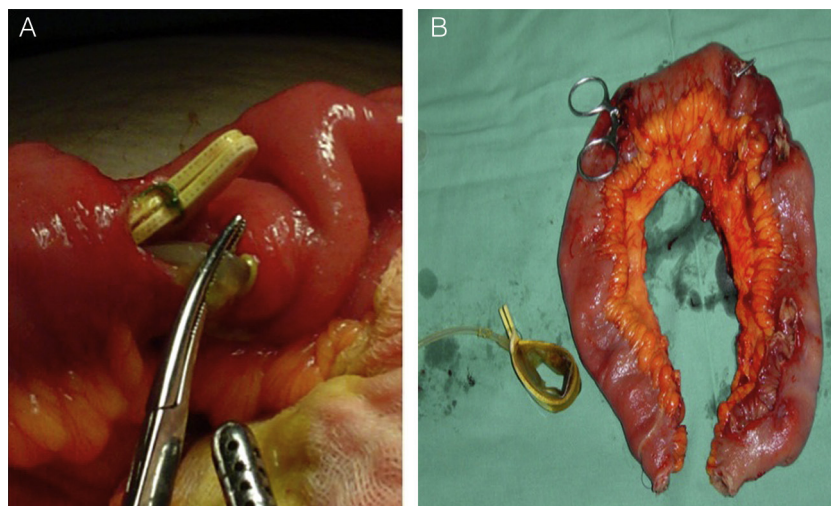


Fig. 2 – (A) Segment of ileum perforated by the gastric band; (B) complete surgical specimen showing several perforations.

from the outside.¹⁰ Clinically, these patients can present symptoms compatible with intestinal obstruction, port infection or failure to lose weight.³⁻⁸ As the perforations are slow to develop, they normally do not present peritonitis, which allows the chronic inflammatory reaction to isolate them. In our case, it is interesting that the patient had pancreatitis previously, which seems to have been circumstantial.

Diagnosis is complex, and a high rate of suspicion is necessary. Persistent infection of the port site can be the first manifestation. CT scan with iv contrast should be the diagnostic technique of choice as it is able to more precisely identify the location of the band and determine its repercussions.⁴ Fluoroscopy, on the other hand, is simple to do and detects the migration of the band, while upper gastrointestinal endoscopy can be therapeutic for withdrawal of the band when possible.³

Treatment will depend on symptoms and degree of band migration. If more than 50% of the band's circumference is within the stomach, endoscopic extraction can be attempted, which is less invasive and causes less morbidity.² In cases where it has migrated towards the small bowel or further and is associated with perforations, an open approach is required. The withdrawal of the band followed by immediate reinstallation is not recommended because of the high rates of failure and risk.

REFERENCES

1. McBride CL, Kothari V. Evolution of laparoscopic adjustable gastric banding. *Surg Clin North Am.* 2011;91:1239-47.
2. Sapolidis K, Liavas L, Panteli N, Kosmatopoulos E, Anastasiadis I, Charalambides S, et al. Intrajejunal migration of adjustable gastric band: a case report. *Curr Health Sci J.* 2013;39:118-20.
3. Bueter M, Thalheimer A, Meyer D, Fein M. Band erosion and passage, causing small bowel obstruction. *Obes Surg.* 2006;16:1679-82.
4. Salar O, Waraich N, Singh R, Awan A. Gastric band erosion, infection and migration causing jejunal obstruction. *BMJ Case Rep.* 2013. <http://dx.doi.org/10.1136/bcr-2012-007737>.
5. Lantsberg L, Kirshtein B, Leytzin A, Makarov V. Jejunal obstruction caused by migrated gastric band. *Obes Surg.* 2008;18:225-7.
6. Egbeare DM, Myers AF, Lawrance RJ. Small bowel obstruction secondary to intragastric erosion and migration of a gastric band. *J Gastrointest Surg.* 2008;12:983-4.
7. Bassam A. Unusual gastric band migration outcome: distal small bowel obstruction and coming out per-rectum. *Pan Afr Med J.* 2012;13:59.
8. Shah KG, Molmenti EP, Nicastro J. Gastric band erosion and intraluminal migration leading to biliary and small bowel obstruction: case report and discussion. *Surg Obes Relat Dis.* 2011;7:117-8.
9. Creedon L, Leeder P, Awan A. Laparoscopic adjustable gastric band erosion and migration into the proximal jejunum. *Surg Obes Relat Dis.* 2014;10:e19-21.
10. Tekin A. Migration of the connecting tube into small bowel after adjustable gastric banding. *Obes Surg.* 2010;20:526-9.

Federico Oppliger*, Horacio Ríos, Luis Manríquez

Departamento de Cirugía, Universidad del Desarrollo – Clínica Alemana, Santiago, Chile

*Corresponding author.

E-mail address: foppliger@gmail.com (F. Oppliger).

2173-5077/

© 2014 Published by Elsevier España, S.L.U. on behalf of AEC.

En Masse Reduction of an Incarcerated Inguinal Hernia. Emergency Laparoscopic Management[☆]

Reducción en masa de una hernia inguinal encarcerada. Abordaje urgente por laparoscopia



Reduction *en masse* of an incarcerated inguinal hernia occurs when the hernia sac is reduced in the preperitoneal space after a taxis manoeuvre or during hernia repair surgery. The intestinal loops remain incarcerated in the sac, so the intestinal obstruction continues despite the apparently successful hernia reduction.^{1,2} Reported for the first time by Luke³ in 1843, reduction *en masse* is an extremely rare complication. In 1908, its frequency was estimated by Corner and Howitt⁴ at approximately 0.3% of incarcerated hernias,

although the current incidence is probably lower due to the increase in early-stage hernia repairs.

We report the case of a 40-year-old intellectually disabled man. He came to the Emergency Department due to abdominal pain associated with a painful left inguinal mass, but he was not able to specify when the symptoms had appeared. Upon examination, the abdomen was soft with no signs of peritoneal irritation; peristalsis was audible. In the left inguinal area, there was a painful mass, compatible with

[☆] Please cite this article as: Maupoey Ibáñez J, Carreño Sáenz O, Beltrán Herrera H, Moya Sanz A, Carbonell Tatay F. Reducción en masa de una hernia inguinal encarcerada. Abordaje urgente por laparoscopia. *Cir Esp.* 2015;93:603-605.