Perforated gastric diffuse large B-cell lymphoma: A case report and literature review☆

Linfoma difuso de células grandes B gástrico perforado: reporte de un caso y revisión de la literatura

Primary gastric lymphoma (PGL) is an uncommon tumor that accounts for 4 to 20% of all non-Hodgkin lymphomas and 5% of primary gastric neoplasias.[1] At present, surgery is only recommended as urgent treatment for patients that present with perforation or severe bleeding, or as palliative treatment.[2–5] Spontaneous gastric perforation in the absence of chemotherapy is extremely rare.[4] We present herein a case of gastric diffuse large B-cell lymphoma that required surgical treatment because it had the two characteristics that make surgical intervention essential: perforation and gastric outlet obstruction.

A 36-year-old man, whose father died of gastric cancer at 31 years of age, had no other remarkable personal pathologic history. His current illness began one month before hospital admission with progressive intolerance to food, nausea, vomiting of the stomach content, and occasional colicky pain in the epigastrium. Endoscopy revealed chronic erosive gastropathy, a lesion infiltrating the antrum, and stricture of the pylorus due to a lesion. Biopsies were taken.

Seven days prior to his admission he presented with non-radiating colicky pain in the epigastrium of 10/10 intensity that did not exacerbate or attenuate, leading to his hospitalization. Laboratory tests reported severe anemia and leukocytosis. As part of his evaluation protocol, abdominal tomography was performed, which identified the presence of gastric antrum wall thickening of up to 20 mm, adenopathies at the level of the duodenal bulb, and inflammatory adhesions in the gastric antrum situated toward the liver and gallbladder.

Surgery was programmed, and it revealed thickening of the gastric wall, which was ulcerated, perforated, and sealed in the direction of the liver and gallbladder (fig. 1). Subtotal gastrectomy and cholecystectomy were carried out and liver biopsy was taken at the site of probable tumor invasion due to contiguity in segment V. The histopathologic study of the intraoperative and definitive sample reported ulcerated and perforated gastric diffuse large B-cell lymphoma (fig. 2A-B). The patient had satisfactory postoperative progression and was released to continue outpatient follow-up and treatment.

The most common site for extranodal primary non-Hodgkin lymphoma is the stomach. It presents as low-grade mucosa-associated lymphoid tissue (MALT) in 40% of the cases and as high-grade diffuse large B-cell lymphoma (DLBCL) in 60%.[1,6] Primary gastric lymphoma frequently presents with nonspecific symptoms and diagnosis is often delayed. Nonspecific abdominal pain (50%) and dyspepsia (30%) are the most common presentations. B symptoms (fever, night sweats, and weight loss) are infrequent, in contrast to nodal lymphomas, causing diagnostic delay.[7] Imaging studies can reveal wall thickening, but in general it is difficult to distinguish gastric lymphoma from other types of gastrointestinal cancer through that medium. Endoscopy and biopsy are more reliable methods for confirming diagnosis.[8]

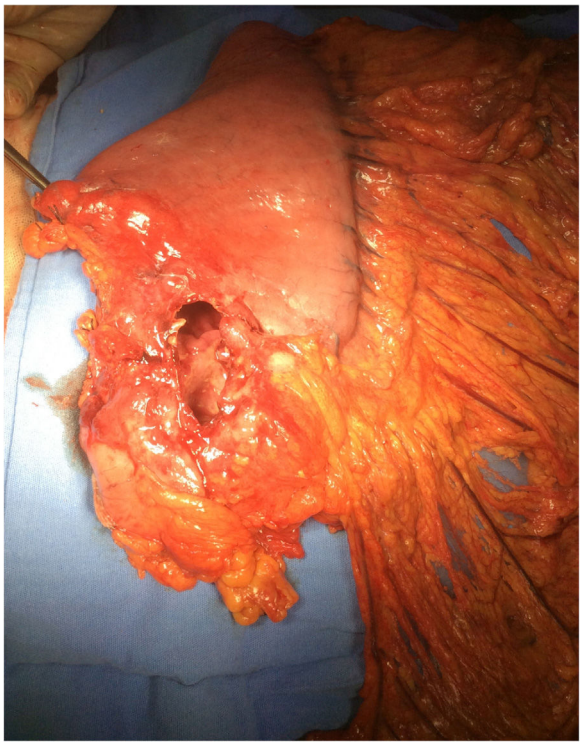

Figure 1 Surgical specimen showing the perforation in the gastric antrum.

Today, primary gastric lymphoma treatment has moved away from surgery, in favor of chemotherapy regimens. Surgery is no longer the cornerstone of treatment and is limited to cases of perforation, bleeding, and tumor-related obstruction.[1,3,4]

In that context, patients with primary gastric diffuse large B-cell lymphoma related to *Helicobacter pylori* (*H. pylori*) that have favorable characteristics are eligible for bacterial eradication therapy as exclusive treatment, maintaining conventional chemoimmunotherapy for non-responder patients.[3] Treatment varies according to the histology of the malignant lymphoma. Tumor cells are known to be positive for CD20. Rituximab is an anti-CD20 antibody and is highly effective in nodal DLBCL.[1] CHOP with or without rituximab is first-line chemotherapy for DLBCL.[9]

The cause of perforation in gastric lymphoma is different in cases that receive chemotherapy and those that do

☆ Please cite this article as: Ceniceros-Cabrales AP, Sánchez-Fernández P. Linfoma difuso de células grandes B gástrico perforado: reporte de un caso y revisión de la literatura. Revista de Gastroenterología de México. 2019;84:412–414.

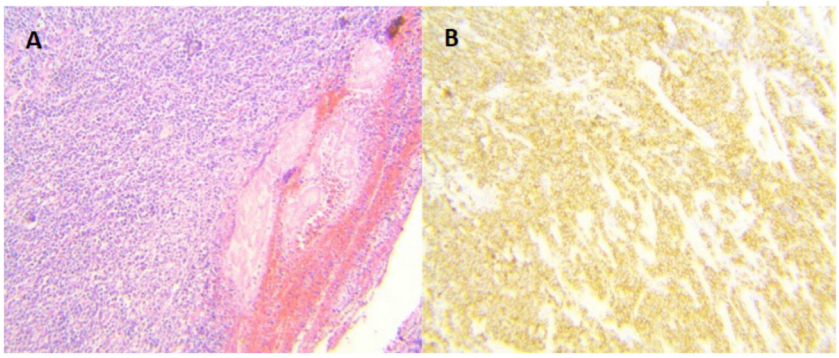

Figure 2 A) Histologic sample. The entire thickness of the gastric wall was diffusely infiltrated by a population of large, atypical lymphoid cells (hematoxylin and eosin stain, × 1.25, × 60). B) Immunohistochemistry: positive for CD20.

not. Perforation in patients that receive chemotherapy is due to the weakening of the gastric tissue, associated with rapid tumor necrosis and tumor lysis due to chemotherapy. On the other hand, there are 2 different patterns of spontaneous perforation. First, spontaneous perforation results from an ulcer and tumor necrosis that has reached the subserosa. Second, perforation is the result of an ulcer that has thin conjunctive tissue and the absence of tumor.[10]

In short, the best treatment should be chosen according to tumor location, clinical stage, pathologic pattern, and the presence or absence of complications. Overall 5-year survival reported for multimodal therapy is between 50 and 70%.[1,7]

The frequency of clinical presentation of gastric lymphoma complicated by obstruction and perforation is extremely low, and even though surgery is no longer the cornerstone of treatment for that pathology, gastrectomy with reconstruction, in addition to medical adjuvant therapy, is indicated when those complications present.

Ethical disclosures

Protection of human and animal subjects. The authors declare that no experiments were performed on humans or animals for this study.

Confidentiality of data. The authors declare that they have followed the protocols of their work center on the publication of patient data.

Right to privacy and informed consent. The authors declare that no patient data appear in this article.

Financial disclosure

No financial support was received in relation to this article.

Conflict of interest

The authors declare that there is no conflict of interest.

References

1. Al-Akwaa AM, Siddiqui N, Al-Mofleh IA. Primary gastric lymphoma. World J Gastroenterol. 2004;10:5–11.
2. Selcukbiricik F, Tural D, Elicin O, et al. Primary gastric lymphoma: Conservative treatment modality is not inferior to surgery for early-stage disease. ISRN Oncol. 2012;2012:951816.
3. Cuccurullo R, Govi S, Ferreri AJ. De-escalating therapy in gastric aggressive lymphoma. World J Gastroenterol. 2014;20:8993–7.
4. Ohkura Y, Lee S, Kaji D, et al. Spontaneous perforation of primary gastric malignant lymphoma: A case report and review of the literature. World J Surg Oncol. 2015;13:35.
5. Avilés A, Nambo MJ, Neri N, et al. The role of surgery in primary gastric lymphoma. Results of a controlled clinical trial. Ann Surg. 2004;240:44–50.
6. Koch P, Probst A, Berdel WE, et al. Treatment results in localized primary gastric lymphoma: Data of patients registered within the German multicenter study (GIT NHL 02/96). J Clin Oncol. 2005;23:7050–9.
7. Brooks JJ, Enterline HT. Primary gastric lymphomas: A clinicopathologic study of 58 cases with long-term follow-up and literature review. Cancer. 1983;51:701–11.
8. Vetro C, Romano A, Amico I, et al. Endoscopic features of gastrointestinal lymphomas: From diagnosis to follow-up. World J Gastroenterol. 2014;20:12993–3005.
9. Bayerdörffer E, Neubauer A, Rudolph B, et al., Regression of primary gastric lymphoma of mucosa-associated lymphoid tissue type after cure of Helicobacter pylori infection. MALT Lymphoma Study Group. Lancet. 1995;345:1591–4.
10. Shiomi H, Watanabe E, Umeda T. A case report of perforated gastric malignant lymphoma. Jpn J Canc Clin. 1997;43:25–8.

A.P. Ceniceros-Cabrales*, P. Sánchez-Fernández

Servicio de Gastrocirugía, Hospital de Especialidades, Centro Médico Nacional Siglo XXI, Instituto Mexicano del Seguro Social, Mexico City, Mexico

* Corresponding author. Servicio de Gastrocirugía, Hospital de Especialidades, Centro Médico Nacional Siglo XXI, Instituto Mexicano del Seguro Social, Av. Cuauhtémoc 330, C.P. 06725, Mexico City, Mexico. Tel.: + 52 (55) 5627 6900 Ext. 21530
E-mail address: anapaucc@hotmail.com
(A.P. Ceniceros-Cabrales).

2255-534X/

Liver transplantation in a patient with metastatic neuroendocrine tumor: A first report in Mexico☆

Trasplante hepático en tumor neuroendocrino metastásico, primer reporte en México

Neuroendocrine tumors (NETs) are a rare neoplasia that derives from neuroendocrine cells of the pancreas, the gastrointestinal tract, and the bronchopulmonary tree.[1] Thirty to 45% of the cases develop metastases, mainly to the liver.[2] Liver transplantation (LT) is the treatment of choice in patients that are not candidates for resection and in patients whose tumors cause uncontrollable hormonal symptoms.[3,4] Currently, there are criteria for considering LT in patients with NETs that metastasize to the liver, with a 90% 5-year survival rate.[5]

The aim of the present article was to report on the survival of a patient that underwent LT due to NET with metastasis to the liver, at the 7-year follow-up.

A 26-year-old woman presented with clinical symptoms of 2-year progression characterized by postprandial pain in the epigastrium that progressed to bloating, early satiety, dyspnea, and weight loss of 20 kg. A computed tomography (CT) scan and magnetic resonance imaging of the abdomen revealed multiple confluent lesions in the liver, some with cystic degeneration, that occupied more than 80% of the hepatic mass. Serum chromogranin A was reported at 114 ng/dl (1.9-15 ng/ml) and 5-hydroxyindoleacetic acid in 24-h urine was 2.9 mg (< 6 mg/24 h). The liver biopsy report demonstrated a well-differentiated NET (chromogranin +, synaptophysin +, CD56 +, HEPAR 1 negative, and Ki-67 < 2%). Enteroscopy and Tc-99-octreotide SPECT/CT could not identify the primary lesion due to the massive tumor involvement in the liver (fig. 1). The Transplantation Committee of our hospital decided to make an exception of the patient's MELD score of 22, given her youth and very poor quality of life, and the fact that the tumor had a low grade of malignancy, the disease had not progressed in 6 months, and no metastases to other sites had been identified.

In April of 2011, deceased donor LT was performed utilizing the technique of total exclusion of the vena cava. During the transplant, the primary tumor, measuring 1 cm in diameter, was identified at the antimesenteric border of the small bowel. It was resected and an end-to-end enteroanastomosis was performed. The histopathologic report of the specimen corroborated the diagnosis (fig. 2). At seven years since the procedure, the patient has adequate quality of life, her liver function tests are normal, and abdominal CT has shown no disease activity.

NETs are slow-growing tumors, enabling some patients to be candidates for LT with good results. Mazzaferro et al. conducted a study in which they compared patients with metastatic NET that were candidates for LT and that met the Milan-NET criteria (age < 60 years, well-differentiated NET, Ki-67 < 5%, stable disease for at least 6 months, ''R0'' tumor resection with portal drainage, metastasis < 50% of total liver volume, and no extrahepatic disease) with a group with metastatic NET that did not undergo LT. The LT recipients had a 5 and 10-year survival rate of 97 and 51%, respectively, compared with a corresponding 88 and 22% in the patients that did not undergo transplantation ($p < 0.001$).[6] That study clearly demonstrated the benefit of LT in NETs that metastasize to the liver, especially in relation to the follow-up at 10 years. However, some selection criteria for LT continue to be subjects of debate.

In a systematic review of the literature, Fan et al. stated that the risk factors for poor survival or early recurrence were: age > 50 years, symptomatic tumors, primary NET in the pancreas, high level of Ki-67 (> 5%), more than 50% involvement of the liver, and poorly differentiated tumors.[7]

In an analysis of 213 patients in the European Liver Transplant Registry, the main risk factors were multivisceral resection or multivisceral transplantation, poorly differentiated tumors, and hepatomegaly. If patients were selected without those factors, the 5-year survival rate was from 60 to 80%.[8]

Mazaferro et al. arbitrarily chose 6 months as the ideal waiting period before LT, assuming that patients with liver metastases that have a longer follow-up before the transplant will have better progression. That hypothesis has been confirmed in retrospective studies. Currently, the majority of centers do not consider LT in asymptomatic patients or in those with stable disease, but once the disease progresses or becomes refractory to medical treatment, LT can be performed in selected cases. Therefore, rather than there being a specific waiting period, TH should be carried out after a time of disease stability, but before disease progression.[9]

In our patient, despite the fact that she presented with 2 risk factors (unresected primary tumor and massive liver involvement), the decision was made for the patient to undergo LT, 6 months after follow-up and under treatment with octreotide. At present, the patient's survival is over 7

☆ Please cite this article as: Vilatobá M, Hurtado-Gómez S, García-Juárez I, Huitzil-Melendez D, Gamboa-Domínguez A. Trasplante hepático en tumor neuroendocrino metastásico, primer reporte en México. Revista de Gastroenterología de México. 2019;84:414–416.