

## Lymphoepithelioma-like gastric carcinoma presenting as giant ulcer of the lesser curvature. Case report

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**SUMMARY:** Lymphoepithelioma-like gastric carcinoma presenting as giant ulcer of the lesser curvature. Case report.

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*Lymphoepithelioma-like gastric carcinoma (LELGC) has special clinicopathologic features that differentiate it from the common gastric adenocarcinoma. LELGC is a rare neoplasm of the stomach with an incidence of 1-4% of all gastric cancers and is characterized by desmoplastic stroma uniformly infiltrated by abundant lymphocytes and plasma cells. LELGC is closely associated with the Epstein-Barr virus (EBV), with 80-100% of LELGC being EBV-positive. LELGC has a male predominance, occurs in elderly people and is usually located in the upper and middle portion of the stomach. We report a rare case of lymphoepithelioma-like gastric carcinoma located in the lesser curvature at the border of the gastric body to the pyloric antrum.*

**RIASSUNTO:** Carcinoma gastrico simil-linfoepitelioma a esordio con ulcera gigante della piccola curvatura. Case report.

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*Il carcinoma gastrico simil-linfoepitelioma (lymphoepithelioma-like gastric carcinoma, LELGC) è un tipo particolare di neoplasia gastrica differente dal comune adenocarcinoma. È un tumore raro (1-4% di tutti i tumori gastrici) e si caratterizza per uno stroma desmoplastico massivamente e uniformemente infiltrato da linfociti e plasmacellule. Il LELGC è strettamente associato alla presenza del virus di Epstein-Barr (EBV) e l'80-100% dei tumori gastrici simil-linfoepitelioma sono EBV-positivi. È più frequente negli uomini e in genere si manifesta nei soggetti anziani, di solito localizzato nel terzo prossimale o nel terzo medio dello stomaco. Riportiamo un caso di LELGC della piccola curvatura, al limite tra corpo e antro pilorico.*

**KEY WORDS:** Stomach - Carcinoma - Lymphoepitelioma - Ulcer.  
Stomaco - Carcinoma - Linfoepitelioma - Ulcera.

### Introduction

Lymphoepithelioma-like gastric carcinoma (LELGC), also named gastric carcinoma with lymphoid stroma and medullary carcinoma, is a rare neoplasm of the stomach with an incidence of 1-4% (1,2) of all gastric cancers. LELGC histologically resembles nasopharyngeal lymphoepithelioma (1,2) and is closely associated with the Epstein-Barr virus (EBV), with 80-100% of LELGC

being EBV-positive, compared to 6.9-16% of ordinary gastric adenocarcinomas (2,3). LELGC, which has a male predominance and occurs in elderly people, is usually located in the upper and middle portion of the stomach and is characterized by desmoplastic stroma uniformly infiltrated by abundant lymphocytes and plasma cells (1,2,4). The infiltrating lymphocytes surrounding tumor cells are almost always T cells while B cell predominant LELGC are extremely rare (1,2,5).

We report a rare case of lymphoepithelioma-like gastric carcinoma located in the lesser curvature at the border of the body to the pyloric antrum.

### Case report

A 52 year-old male, with no previous medical history, presented with abdominal discomfort in the upper abdomen and general

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Fig. 1 - Gastroscopy revealing a giant ulcer of the lesser curvature with irregular borders.

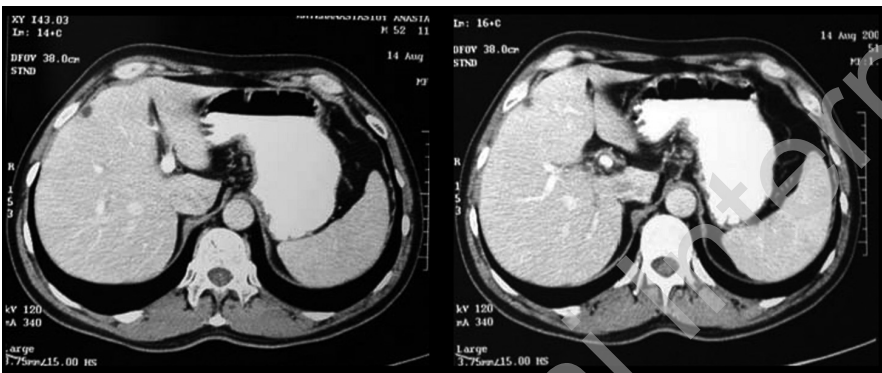


Fig. 2 - Abdominal CT scan demonstrating thickening of the stomach wall of the lesser curvature and opacity of the perigastric adipose tissue.

fatigue. Laboratory examinations were within the normal range (hematocrit 40%, hemoglobin 13.9 g/dl) and the tumor markers were also within the normal range (CEA 1.8 ng/ml and CA19-9 1 U/ml). A gastroscopy revealed a giant ulcer of the lesser curvature at the border of the gastric body to the pyloric antrum with irregular borders (Fig. 1). Biopsies revealed poorly differentiated gastric adenocarcinoma. The CT scan showed thickening of the stomach wall at the anatomical site of the lesser curvature at the border of the body to the pyloric antrum and opacity of the perigastric adipose tissue without the presence of enlarged regional lymph nodes (Fig. 2). At laparotomy the tumor was located at the lesser curvature at the border of the body to the pyloric antrum and a subtotal gastrectomy was performed.

Macroscopically, the tumor, which measured 1.8 cm, was albicans in color and ulcerated. Microscopically, the tumor had central superficial ulceration and consisted of nests of neoplastic cells within a dense lymphoplasmacytic infiltration. The lymphoplasmacytic infiltration consisted mainly by lymphocytes, plasma cells and occasional neutrophils and eosinophils. The malignant cells were of medium size, polygonal in shape with translucent or eosinophilic cytoplasm, regular vesicular nuclei, prominent nucleoli and few mitotic figures. The neoplastic cells were rarely sporadic and were usually arranged in small solid groups or trabeculas or tubular formations or syncytiums. Immunohistochemistry of the neoplastic cells revealed positivity for keratin 8/18 (CAM 5.2) but not for keratin 7. The inflammatory reactive population consisted of B lymphocytes (CD45+, CD20+) and T lymphocytes (CD45+, CD3+) (Fig. 3). The neoplastic tissue infiltrated the stomach wall and extended till the muscular layer. The surgical margins were free and no metastasis was present to any of the 30 resected lymph nodes.

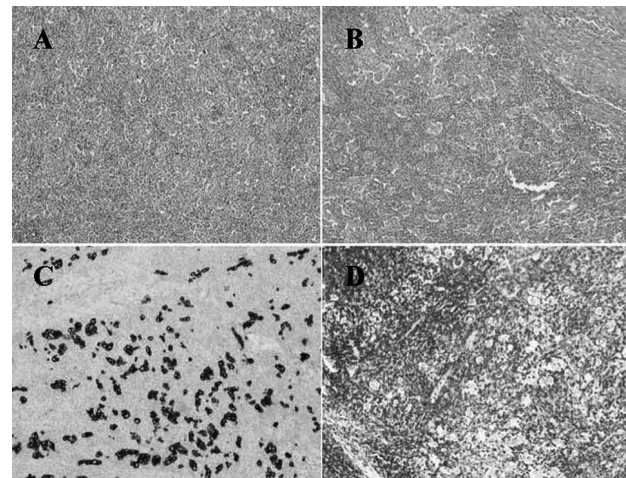


Fig. 3 - Diffuse nests of infiltrating undifferentiated carcinoma cells surrounded by prominent lymphoid stroma (A and B: H&E, x100). Immunohistochemistry showing positivity for keratin 8/18 (CAM 5.2) (C, x100) and CD45 (D, x100).

## Discussion and conclusions

LELGC has special clinicopathologic features that differentiate it from the common gastric adenocarcinoma

(2). It is considered to have a male predominance (although some authors have reported a female predominance) (1,2) and to affect usually the elderly. It is characterized by involvement of the cardia and body of the stomach and macroscopically it presents as a ulcerating tumor with well delineated margins and pushing borders (1,6). LELGC has a favorable prognosis compared to ordinary gastric adenocarcinoma (3,6), with the 5-year survival rate being 83% and 46%, respectively (6), and also lower frequency of lymph nodes metastasis (3). Severe lymphoid infiltration is regarded as a good host defense against tumor cells and patients with undifferentiated gastric carcinoma with dense lymphoid infiltration have a better survival than those without infiltration <sup>2</sup>.

Histopathologically, LELGC consists by a sparse population of poorly pleomorphic cancer cell nests arranged primarily in microalveolar, primitive tubular or thin trabecular patterns that are surrounded by prominent nondesmoplastic lymphoid stroma with adjacent reactive lymphoid tissue (1,2,4). Neoplastic cells are large, oval or polygonal, with abundant eosinophilic cytoplasm, vesicular to clear nuclei and prominent nucleoli (1). The lymphoid reaction is consisted by abundant lymphocytes and plasma cells (1,4) and in most cases the infiltrating lymphocytes are T cells positive for CD4 or CD8 (2). Immunohistochemistry of the neoplasm is positive for keratins (1).

LELGC has a close relationship with EBV (1-6) with over 80% of LELGC being positive for EBV infection while this percentage is lower in common gastric adenocarcinoma, usually lower than 10% (3,7,8). An etiologic relationship between EBV and LELGC is based on the uniform expression of EBV in all tumor cells and its absence in normal epithelium or dysplastic lesions. However, the possible mechanism of carcinogenesis by EBV is still unclear. A proposed mechanism of oncogenesis is that orally excreted EBV infects a small number of gastric epithelial cells to express latent membrane protein 1 (LMP1) and EBV determined nuclear antigen 1 (EBNA1). These EBV infected cells have increased growth potential but most of them are killed by T cells. Some of these cells are selected by certain risk factors and evade immune surveillance proliferating monoclonally to develop EBV-positive carcinoma (7). Also compared with EBV-negative gastric carcinoma LELGC tended to have a relatively frequency of p53 overexpression and reduced E-cadherin expression, but lower frequency of Helicobacter pylori infection and c-erb-b2 overexpression (3). The lymphoid reaction can be either a direct response to the virus or a response to virally induced antigens expressed on the neoplastic cells (2). Recently a small subset of LELGC has been associated with microsatellite instability (1).

Differential diagnosis of LELGC includes intense lymphoid infiltrate only or even lymphoma (1).

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