

## Case Report

# Lymphoepithelial carcinoma of the stomach: a case report

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**Abstract:** We report a case of lymphoepithelial carcinoma of the stomach in a woman who underwent a lot of laboratory and assistant examination, but not acquired the definite diagnosis before operation. This is a kind of uncommon cancer in stomach, but usually found in nasopharynx.

**Keywords:** Lymphoepithelial carcinoma, stomach, Epstein-Barr virus

## Introduction

Lymphoepithelial carcinoma is defined as a kind of squamous cell neoplasm with histological similarity to nasopharyngeal carcinoma. Lymphoepithelial carcinoma of the stomach is a rare and peculiar type of gastric carcinoma, which is also known as Epstein-Barr virus (EBV)-associated gastric carcinoma because its lesions have been found to be infected with EBV [1].

## Case report

A 50-year-old woman presented with a 1 month history of hematemesis with no other symptoms, past medical or family history.

On computerized tomography (CT) of the abdomen and pelvis, the findings of enhancement and a small-sized mass were observed on the antrum (**Figure 1**). Lymph nodes enlargement was not found.

The gastroscopic biopsy revealed a gastric ulcer and associated moderate chronic gastritis without evidence of *Helicobacter pylori* (**Figure 2**). The histological type of the tumor was poorly differentiated adenocarcinoma.

During the operation, we still felt it was the gastric carcinoma (**Figure 3**). Several enlarged lymph nodes were seen around the stomach. A radical subtotal gastrectomy was performed

with lymph nodes dissection and a Roux-en-Y reconstruction.

The pathologic result was lymphoepithelial carcinoma of the stomach. The perigastric lymph node showed a tumor metastasis (one in twelve) with the same histologic features that mentioned above in the stomach neoplasms.

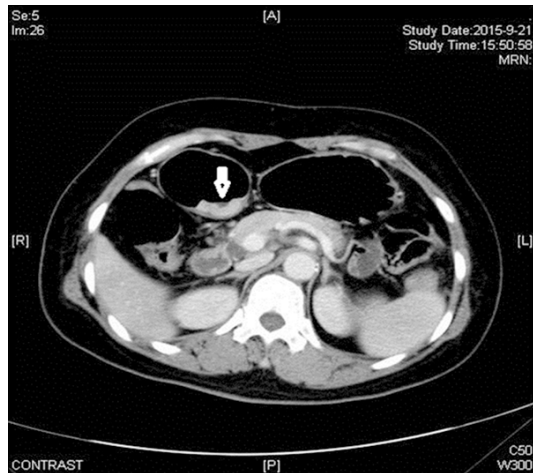
Histopathology of the tumor showed a lymphoepithelial lesion characterized by mixture of nests or cords with abundant lymphoid stroma. The tumor nests were comprised of syncytial sheets composed of polygonal or ovoid cell. The lymphoid stroma was composed of a polymorphic mixture of lymphocytes and a few plasma cells. Tumor cells were made up of pleomorphic and eosinophilic nucleoli.

Immunohistochemical staining for pan-cytokeratin was partial positive. The tumor was positive for CK7, CK20 and EMA. The in situ hybridization for EBV-encoded RNA (EBER) showed a positive result (**Figure 4**).

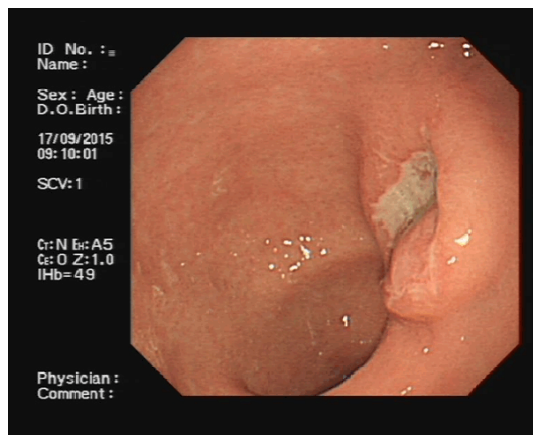
## Discussion

Lymphoepithelial carcinoma was usually found in nasopharynx, salivary glands, thymus and liver. However, recent cases of lymphoepithelial carcinoma detected in other anatomic allocations were also reported, such as bladder, cervix, ovaries, skin and so on [2, 3]. The lympho-

## Lymphoepithelial carcinoma of the stomach



**Figure 1.** CT scan showed a small-sized mass on the antrum.



**Figure 2.** Gastroscope image showing a gastric ulcer of antrum.



**Figure 3.** Gross appearance of the tumor: a patelliform tumor measuring 2 cm in diameter with depression and central ulcer.

epithelial carcinoma of the stomach is a rare type of gastric carcinoma that was first described as a kind of gastric carcinoma with a lymphoid stroma [4]. EBV is a human cancer-associated virus that infects over 90% of the global population [5]. The EBV genome in gastric carcinoma was first detected in 1990 by Burke et al. using the polymerase chain reaction (PCR) technique [6]. From then on, about 10% of gastric carcinoma has been identified as EBV positive, and the EBV-associated gastric carcinomas comprise about 10% of all gastric carcinomas worldwide [7]. The incidence of EBV-associated gastric carcinoma in all cases of gastric carcinoma ranges from 16%-18% in the USA and Germany to 4.3% in China. Therefore, the prevalence rate of EBV-associated gastric carcinoma is inversely related to the incidence of gastric carcinoma [8]. Most studies have not shown obvious age dependence, but almost all of the studies showed male predominance of EBV-associated gastric carcinoma [9].

Lymphoepithelial carcinoma has typical histopathological features and confirmatory EBER expression by chromogenic in situ hybridization, which is demonstrated in this case. Early EBV-associated gastric carcinoma has a low frequency of lymph node metastasis. A clinicopathological study showed that EBV-positive gastric carcinoma has a significantly low frequency of lymph node metastasis compared with EBV-negative stomach cancer (68.3% versus 41.9%). A better clinical outcome can be acquired in EBV-positive gastric carcinoma [10]. There was one metastatic lymph node in our case, but the tumor was confined to the superficial muscular layer. There is uncertainty to prognosis of patients.

At present, no validated therapeutic method exists for lymphoepithelial carcinoma. Surgery represents the best way in localized disease sometimes followed with radiotherapy and chemotherapy, whereas the definitive standard of its treatment is not yet established by far.

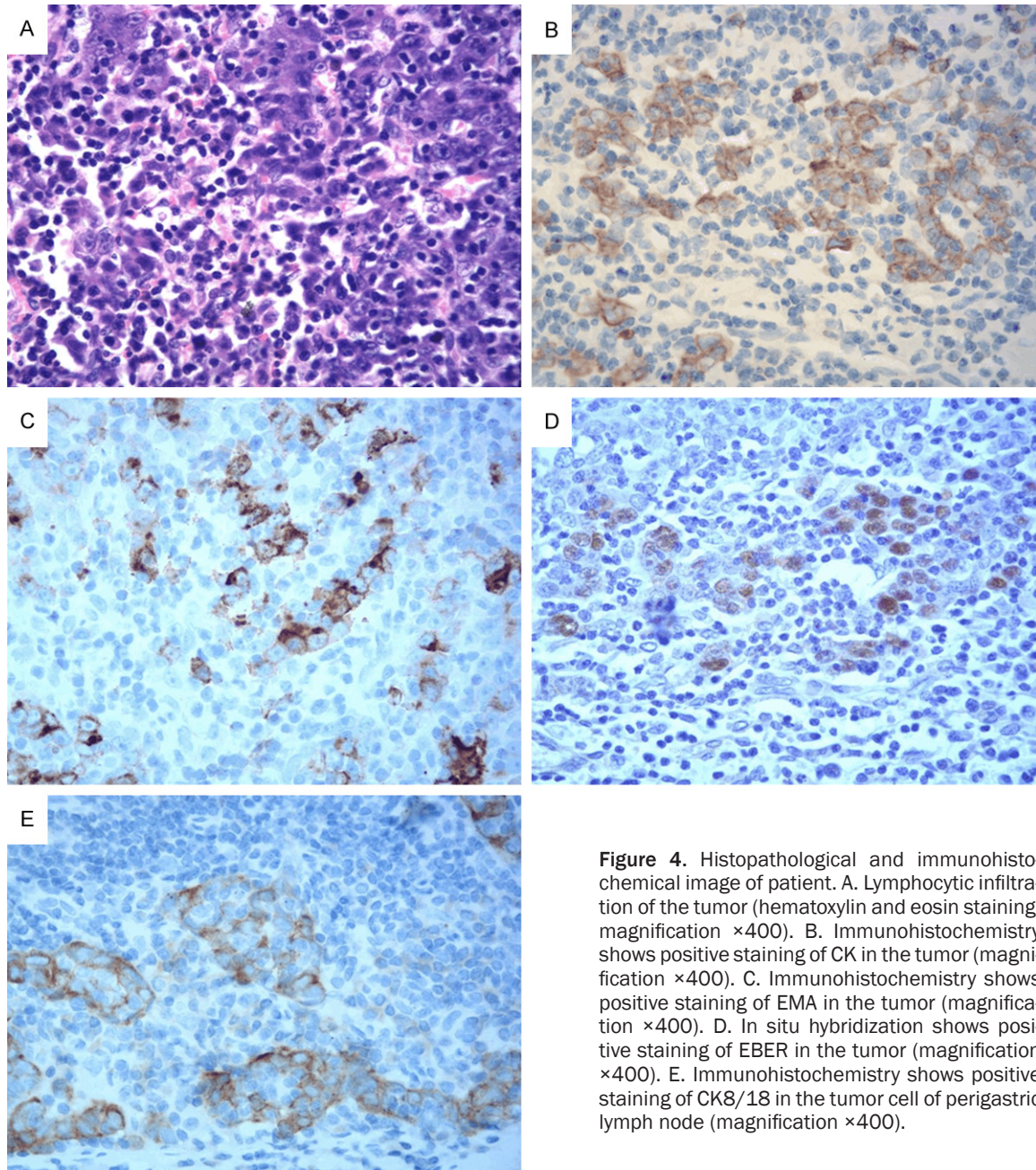
### Disclosure of conflict of interest

None.

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**Figure 4.** Histopathological and immunohistochemical image of patient. A. Lymphocytic infiltration of the tumor (hematoxylin and eosin staining, magnification  $\times 400$ ). B. Immunohistochemistry shows positive staining of CK in the tumor (magnification  $\times 400$ ). C. Immunohistochemistry shows positive staining of EMA in the tumor (magnification  $\times 400$ ). D. In situ hybridization shows positive staining of EBER in the tumor (magnification  $\times 400$ ). E. Immunohistochemistry shows positive staining of CK8/18 in the tumor cell of perigastric lymph node (magnification  $\times 400$ ).

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