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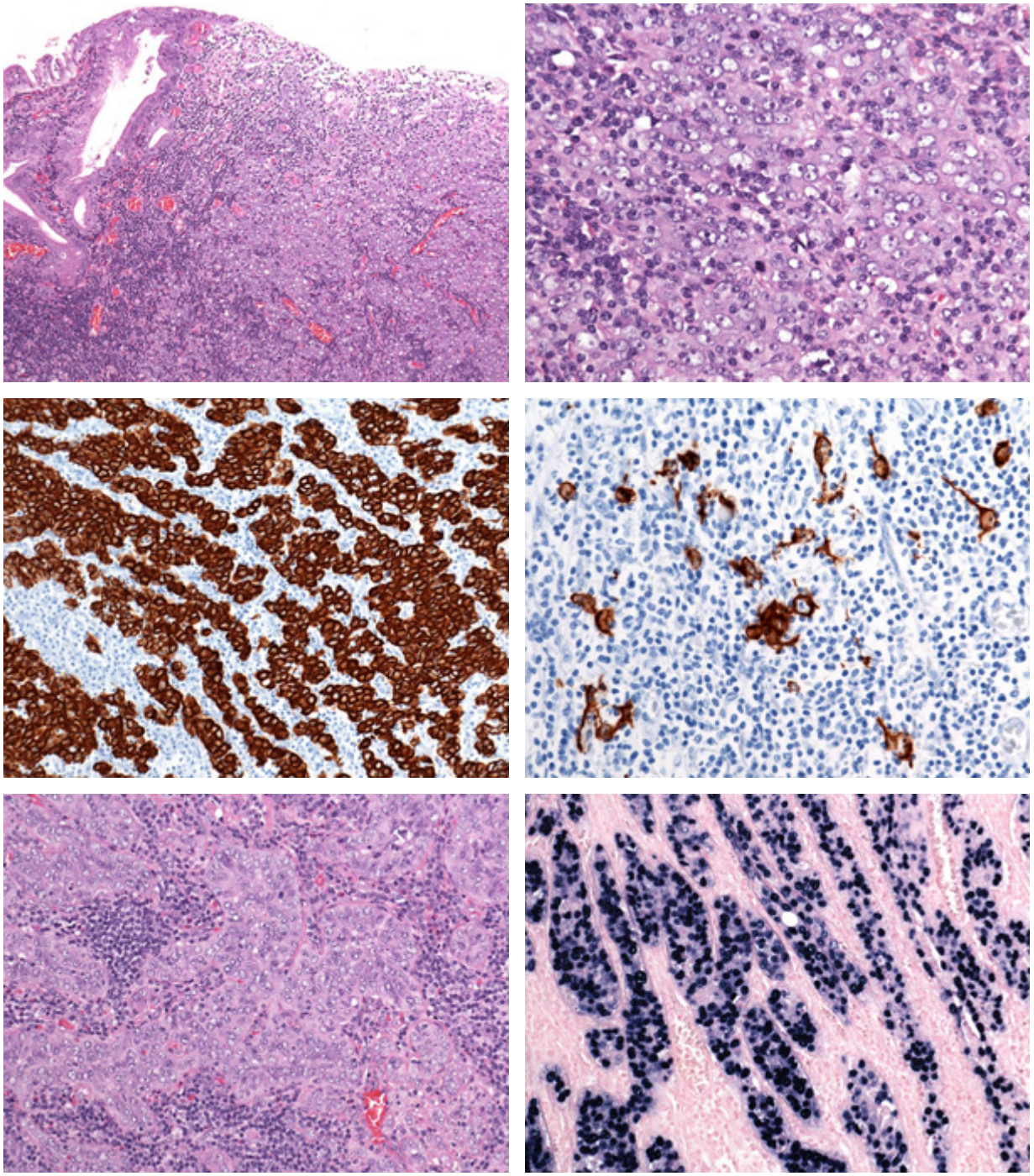
Ulceration in the gastric stump of a 74-year-old male.

What is your diagnosis?



Diagnosis:

EBV-associated gastric cancer with prominent lymphoid stroma (lymphoepithelioma-like carcinoma).

Comment:

The histology shows a well circumscribed neoplastic proliferation. Large parts of the lesion are characterized by polymorphous single cells and small clusters of cells with syncytial growth pattern and a dense intra-/peritumoral mononuclear infiltration, containing a high number of lymphocytes and also plasma cells

(Panels A-B). The pankeratin staining proves the epithelial nature of the tumor cells, and highlights the destruction of tumor cell islands by the inflammatory infiltrate (Panels C-D). Small areas of the tumor show an organoid or sheet-like pattern (Panel E). Epstein-Barr virus (EBV) in situ hybridization (EBER) is diffusely positive (Panel F). The distinct histology and the positivity for EBV render a final diagnosis of EBV-associated gastric cancer with prominent lymphoid stroma (lymphoepithelioma-like carcinoma).

Gastric cancer is the fourth most common cancer worldwide, and the second most common cause of cancer-related death. The incidence of gastric cancer differs from country to country with an average of 10% worldwide. Gastric carcinoma with prominent lymphoid stroma is a distinct morphological variant that has a comparably favorable prognosis. This variant is either associated with microsatellite instability (MSI) or EBV infection (both features are virtually exclusive).

EBV-associated gastric cancer shows some important characteristics, such as male predominance (75%) and a predisposition to the proximal stomach. It is of note, that the frequency of EBV-associated gastric cancer is significantly higher in the gastric stump (35%) compared to the intact stomach. MSI usually results from MLH1 function impairment (with or without methylation). Occurrence within Lynch Syndrome is rare.

The diagnosis of gastric cancer with prominent lymphoid stroma (lymphoepithelioma-like carcinoma) may be challenging, in particular when only biopsy material is available and the neoplastic proliferation is masked by the inflammatory infiltrate. Differential diagnosis mainly includes malignant lymphomas, such as diffuse large B-cell lymphoma (DLBCL).

For further reading:

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- Tsao SW, Tsang CM, To KF, Lo KW. The role of Epstein-Barr virus in epithelial malignancies. J Pathol. 2014 Sep 24. doi: 10.1002/path.4448. [Epub ahead of print]

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