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CORRESPONDENCE

Ulcerative Gastritis Secondary to Epstein–Barr Viral Infection

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To the Editor,

Epstein–Barr virus (EBV) belongs to the herpes family of viruses, which leads to chronic infection in over 90% of the world's population [1]. Primary EBV infection typically occurs in children; however, young adults may become infected and demonstrate a collection of findings referred to as infectious mononucleosis. Reticuloendothelial lymphoproliferation results in systemic lymphadenopathy and splenomegaly. Rarely, the virus can affect the gastrointestinal tract, leading to ulcerative and hemorrhagic lesions. Of greatest importance in recognizing ulcerative gastritis secondary to EBV infection is to identify a self-limited condition that can potentially be mistaken for gastric lymphoma.

A review of the literature reveals three reported cases of EBV-mediated gastritis and one case of large bowel involvement in immunocompetent patients ranging in age from 40 to 59 years [1, 2]. We report the case of an immunocompetent 20-year-old female who presented to the gastroenterologist with nausea and epigastric pain. An upper endoscopy was performed, revealing bilateral tonsillar exudate and gastric ulcerations. The endoscopic differential in this case included NSAID-induced injury, infections (*H. Pylori*, viral), and malignancy. Multiple biopsies of the gastric ulcerations were taken, revealing epithelial ulcerations and a marked expansion of the lamina propria with a diffuse lymphoid infiltrate (Fig. 1a). No granulomas or *Helicobacter*-like microorganisms were identified either with hematoxylin and eosin (H&E) or silver staining. The age of the patient, the presence of tonsillar exudate, and a positive monospot test made EBV gastritis a consideration. Gastric extranodal marginal zone B-cell lymphoma of mucosa-associated lymphoid tissue (MALT lymphoma) and diffuse large B-cell lymphoma were possibilities. Both B- (CD20) and T-lymphocyte (CD3) markers were employed, showing a mixed background with a predominance of $CD3^{+}$ T lymphocytes. Additional molecular testing for IgH heavy-chain rearrangement was negative. In situ hybridization for EBV-encoded small RNA-1 (EBER-1) showed diffuse positivity (Fig. 1b). Importantly, expression of EBER-1 should not be considered a true positive unless there is diffuse staining. Prior studies on colonic resections from cases of inflammatory bowel disease have shown isolated EBER-1 positivity in 60% of cases [3]. This finding most likely represents chronically EBV-infected B lymphocytes that happen to circulate within colonic inflammatory infiltrates.

The malignant entity in the differential diagnosis is a gastric lymphoma (both diffuse large B-cell and extranodal marginal zone lymphoma). Within the gastrointestinal tract, B-cell lymphomas are most frequently found in the stomach and commonly present as multifocal lesions [4]. Without the presence of tonsillar exudate observed during the endoscopy, this case would have presented a much greater diagnostic dilemma and likely would have been diagnosed as severe gastritis of unknown etiology. One case of EBV gastritis was initially diagnosed as diffuse large B-cell lymphoma due to a predominant B-lymphocyte population expressing CD20 and CD79a [2]. It was

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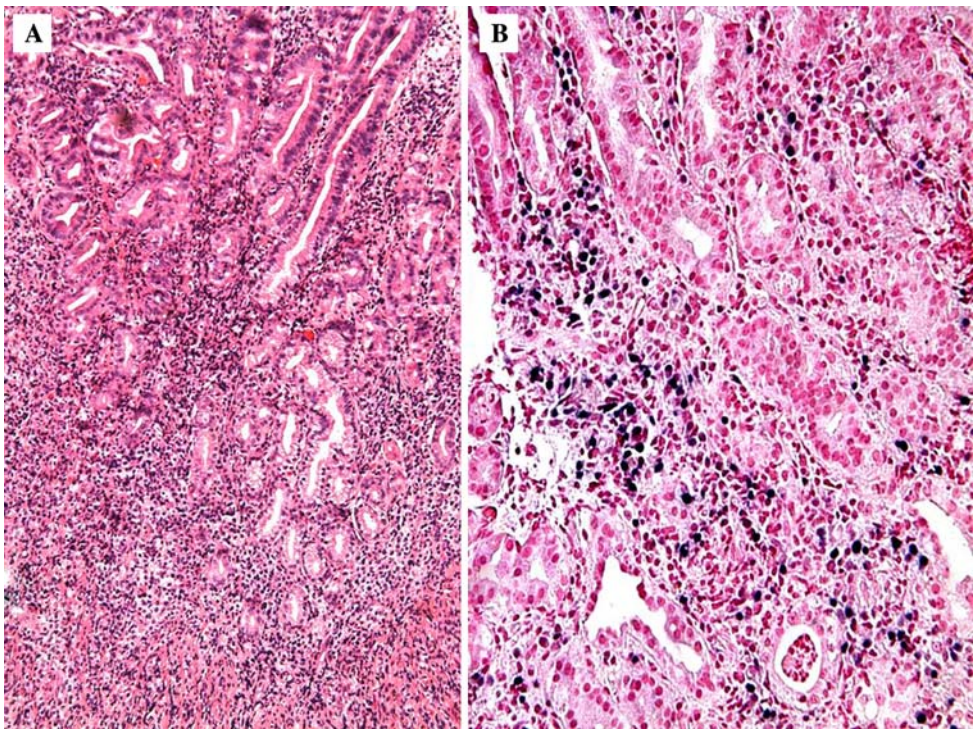

Fig. 1 Features of Epstein–Barr virus (EBV) gastritis. The gastric lamina propria is expanded with a lymphoid infiltrate (**a**: hematoxylin-eosin, original magnification ×100). In situ hybridization for EBV-encoded small RNA-1 (EBER-1) showing diffuse positivity in gastric mucosa (**b**: original magnification ×200)

only following the rapid (2-week) resolution of the lymphoid infiltrates that the case was re-examined.

In summary, the clinical and histologic features of ulcerative gastritis secondary to EBV infection are presented. It is important for the gastroenterologist to include this rare, but distinct entity in the differential diagnosis of ulcerative gastritis.

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