**Introduction:** It is well known that lymphocytic infiltration around tumor can be considered as a host immune reaction against tumor cells, although the exact cellular characteristics or their roles in gastric cancer are not certain at the present time. Therefore, we investigated prognostic impact of tumor-infiltrating lymphocytes (TILs) in Epstein-Barr virus (EBV)-associated gastric cancer (EBVaGC), which can be subclassified into three histological subtypes according to the host cellular immune response: lymphoepithelioma-like carcinoma (LELC), carcinoma with Crohn’s disease-like lymphoid reaction (CLR), and conventional-type adenocarcinoma (CA).

**Methods:** In situ hybridization for EBV positivity was performed in 1318 cases that underwent surgery or endoscopic submucosal dissection at Kyungpook National University Hospital between January 2011 and November 2014. Histopathologic analysis of percentage of TILs was performed on whole hematoxylin and eosin-stained sections. TILs were defined as the percentage of tumor stroma area that was containing by infiltrating inflammatory cells. A tissue with TILs over 20% was considered TILs-positive. EBVaGCs were also sub-classified into three histological subtypes: LELC, CLR, and CA.

**Results:** EBVaGC was identified in 111 cases (8.4%) from a total of 1318 gastric cancer. The median age was 62 years (32-80), and 86 patients (77.5%) were male. The pathologic stages after resection were as follows: stage I (n = 69), stage II (n = 24), stage III (n = 16), and stage IV (n = 2). TILs-positive patients were 65 patients (58.6%). The number of histologic subtypes of EBVaGC was as follows: LELC (n = 35), CLR (n = 50), and CA (n = 26). In the univariate analysis, TILs score and EBVaGC sub-classification was significantly associated with disease-free survival (DFS), respectively (p = 0.016 and p = 0.001). The LELC and CLR groups with TILs positive showed an improved DFS compared to the CA group with TILs below 20 percent (p = 0.002). This difference was also significant in the multivariate analysis (p = 0.018).

**Conclusion:** The EBVaGC sub-classification and TILs were found to be associated with DFS in patients with EBVaGC. As a result, this finding suggests that the host cellular immune response may be involved in EBVaGC and could be useful as a prognostic marker for EBVaGC.