Predictive factor of hyperprogressive disease during nivolumab in patients with advanced gastric cancer

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Background: There is no report regarding clinicopathological factors to predict hyperprogressive disease (HPD) during PD-1 blockade in patients (pts) with advanced gastric cancer (AGC).

Methods: We retrospectively reviewed the clinical records of pts with AGC who were treated with nivolumab after two or more chemotherapy regimens in National Cancer Center Hospital East from September 2017 to January 2018. HPD was defined as time-to-treatment failure < 2 months, > 50% increase in tumor burden compared with baseline imaging, and > 2-fold increase in tumor growth rate. Clinical characteristics associated with HPD were investigated in this study. Several laboratory data during nivolumab treatment were also analyzed.

Results: The total 51 pts were included in this study and 11 of them (22%) developed HPD at first evaluation. Liver metastasis (45% vs 82%), ECOG performance status (PS) 1 or 2 (25% vs 73%), and large sum of diameter of target lesions at baseline (median 49.8 vs 82.9 mm) were significantly associated with HPD. Baseline neutrophil count, lactate dehydrogenase (LDH), and C-reactive protein (CRP) were significantly higher in HPD pts compared with others.

Conclusions: HPD was observed in pts with AGC treated with nivolumab, which was associated with liver metastases, poor PS, and large tumor. In addition, Baseline neutrophil count and CRP are higher in pts with HPD than others.